THE COOPERATION AMONG AUTHORITIES IN IMPLEMENTING THE REGULATORY FRAMEWORK FOR ELECTRONIC MONEY: MALAYSIA AS A CASE STUDY

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ABSTRACT

The advance in information technology has encouraged many countries to develop diverse methods of delivering information and communicating. The enhancement of Information and Communications Technology (ICT) has made it possible to deliver information and communication more rapidly and conveniently. Many emerging economies have taken advantage of ICT, including it in its development agenda.

The development of ICT has had an impact on the provision of retail payment systems and its instruments. One of the main instruments, electronic money, promises to benefit the users with all the advantages of traditional notes and coins, and much more. Many countries have established or are considering the establishment of a regulatory framework of electronic money with its mass use in view.

This volume examines the regulatory framework of electronic money, which some emerging economies have already established. It analyses the challenges faced in implementing laws and regulations for an evolving payment instrument where the regulatory framework may quickly become obsolete. The continuing development of electronic money with additional features and functions may invoke legislation leading to cross-regulatory functions among the authorities.

The thesis is that the success of implementing the regulatory framework for electronic money will depend on the sound and effective coordination among relevant authorities. The role of the central bank and its relation to relevant authorities will be closely examined, because the central bank is often responsible for the development of payment systems, both wholesale and retail, especially in emerging economies, and plays a key role in its regulation. The use of a Memorandum of Understanding is proposed to ensure effective coordination and cooperation among relevant authorities. Malaysia will be used as the case study as the government has been enthusiastic in adopting electronic money, being involved in its development, implementation and regulation, which may not always be appropriate. Analysis in this thesis will be based on information as of 1 September 2004.

The first three chapters of this volume will discuss the enhancement of ICT in emerging economies and the efforts taken to develop retail payment systems in consonant with ICT. Evaluation will be made on the relationship between ICT and the need to modernise the retail payment, which includes developing its regulatory framework. Analysis will then be made specifically on electronic money, focusing on stored-valued products. The overall development on stored-valued cards and why the acceptance of this product was initially slow will be examined, and then the underlying regulatory structure that may affect this is assessed.

The last two chapters will focus on Malaysia. Analysis will be made on the approach taken in developing electronic money and its regulatory framework. The roles and functions of the relevant authorities involved will be critically examined, leading to a proposal to execute a Memorandum of Understanding among the authorities as a mechanism of ensuring the effective coordination and cooperation between the parties.

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CHAPTER 4

REGULATORY FRAMEWORK OF ELECTRONIC MONEY IN MALAYSIA

ABBREVIATIONS

ACCC	Australian Competition and Consumer Commission
ACH	Automated Clearing House
ACT	Australian Capital Territory
APEC	Asian-Pacific Economic Cooperation
APRA	Australian Prudential Regulatory Authority
ARPA	United States Department of Defense Advanced Research Projects Agency
ASA	ASEAN Swap Agreement
ASEAN	Association of South East Asians Nations
ASIC	Australian Securities and Investments Commission
ATIM	Asian Technology Information Program
ATM	Automated Teller Machine
AUD	Australian Dollars (Currency)
BAFIA	Banking and Financial Institutions Act 1989
BIS	Bank for International Settlements
BNM	Bank Negara Malaysia (Central Bank of Malaysia)
BOE	Bank of England
CBA	Central Bank of Malaysia Act 1959
CCA	Computer Crime Act 1997
CEPS	Common Electronic Purse Specification
CIC	Capital Issues Committee
CMA	Communications and Multimedia Act 1998
CPSS	Committee on Payment and Settlement Systems

DLR	Docklands Light Railway
DPI	Designated Payment Instrument
DPS	Designated Payment System
DRPAD	Development Research and Policy Analysis Division
DSA	Digital Signature Act 1997
e-ASEAN	Electronic Association of South East Asian Nations
ECB	European Central Bank
E-FiTS	APEC Working Group on Electronic Financial Transaction System
EFTPOS	Electronic Fund Transfers at Point of Sale
EMEAP	Executives Meeting of East Asia-Pacific Central Banks
EMEF	Emerging Markets Economic Forum
EPS	Easy Pay System
EU	European Union
EUR	Euro (Currency)
FRB	Federal Reserves Board
FSA	Financial Services Authority
FSF	Financial Stability Forum
G10	Group of Ten Countries
GBP	Great Britain Pounds (Currency)
GMPC	Government Multipurpose Card
HKD	Hong Kong Dollars (Currency)
HKMA	Hong Kong Monetary Authority
ICT	Information and Communications Technology

IDA	Infocomm Development Authority of Singapore
IOSCO	International Organisation of Securities Commissions
IT	Information Technology
IU	In-Vehicle Unit
LRT	Light Railway Transit
MAMPU	Malaysian Administrative Modernisation and Planning Unit
MAS	Monetary Authority of Singapore
MCMC	Malaysian Communications and Multimedia Commission
MDC	Multimedia Development Corporation
MECM	Ministry of Energy, Communications and Multimedia
MEPS	Malaysian Electronic Payment System Sdn. Bhd.
MOU	Memorandum of Understanding
MSC	Multimedia Super Corridor
MYR	Malaysian Ringgit (Currency)
NII	National Information Infrastructure
NITC	National Information Technology Council
NPAC	National Payments Advisory Council
OFC	Offshore Financial Centre
OPP	Outline Perspective Plan
OPP3	Third Outline Perspective Plan
PIN	Personal Identification Number
PMPC	Payment Multipurpose Card
POS	Point-of-Sales

PSA	Payment Systems Act 2003
RBA	Reserve Bank of Australia
R&D	Research and Development
RENTAS	Real Time Electronic Transfer of Funds and Securities
SET	Secure Electronic Transaction
SGD	Singapore Dollars (Currency)
SIPS	Core Principles for Systemically Important Payment Systems
SSL	Secure Socket Layer
TAFE	Technical and Further Educations
Tfl	Transport for London's Prestige team
UN ESCAP	United Nations Economics and Social Commission for the Asia and the Pacific
UNESCO	United Nations Educational Scientific and Cultural Organisation
USD	United States Dollars (Currency)
WAP	Wireless Application Protocol
WMATA	Washington Metropolitan Area Transit Authority

CHAPTER 1

ASSESSING THE ENVIRONMENT AND THE REGULATORY FRAMEWORK IN THE DEVELOPMENT OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

I General Introduction

Some emerging economies[1] have taken the development of Information and Communications Technology (ICT) as their priority policy. The initiatives taken by these emerging economies on the development involve various areas, including the development of new retail electronic payment instruments such as electronic money and its regulatory framework.

There is much debate on whether electronic money as a retail payment instrument, should be regulated at all.[2] Much of the opposition to regulating it stems from the fact that although there were predictions of it becoming the main method of payment for electronic commerce transactions,[3] generally, electronic money has not been as successful as initially estimated.[4] Another argument against regulation is that as electronic money is still undergoing development and change, regulations may stifle innovation and discourage players from entering the market.[5] It is also argued that as

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[1] For the purpose of this thesis, research is limited to Malaysia, Singapore and Hong Kong. All references made to emerging economies, unless otherwise stated, refer only to these three emerging economies.

[2] *See* Clinton B 'A Framework for Global Electronic Commerce' The White House 1997. *Available at* <http://www.ecommerce.gov.framework.html> last visited in August 2001. However, it should be noted that various countries have taken initiatives to build a regulatory framework for electronic money. *See* Chapter 3 section IV for initiatives taken in developing regulatory framework for electronic money in both developed countries and emerging economies.

[3] *See* Chakravorti S 'Why Has Stored Value Not Caught On?' Emerging Issues Series, Supervision and Regulation Department (S&R - 2000 - 6) Federal Reserve Bank of Chicago 2000. *Available at* <http://www.chicagofed.org> last visited March 2002.

[4] However, it should be noted that not all electronic money schemes fail. For example, in emerging economies like Hong Kong, the Octopus stored-value card is very successful. *See* Chapter 3 section II under D - 4 for further discussion on Octopus card.

[5] *See* Greenspan A 'Regulating Electronic Money' CATO Online Policy Report Volume XIX Number 2, March/April 1997. *Available at* <http://www.cato.org/pubs/policy_report/cpr-19n2-1> last visited August 2001.

electronic money technology is still advancing, regulatory bodies do not have the expertise to build the regulatory framework for this payment instrument.[6]

Discussion in this thesis will be limited to certain emerging economies in the South East Asian region,[7] such as Hong Kong and Singapore, and will then turn to Malaysia. These emerging economies are analysed because of the similarity of the policy taken by the respective governments in developing ICT, which includes enhancing retail payment instruments such as electronic money. Hong Kong and Singapore, for example, have set up regulatory frameworks for electronic money where existing legislation has been amended to accommodate their regulatory strategies.[8]

Legal and regulatory activities in these emerging economies have been limited to stored-value cards products so far.[9] Hong Kong and Singapore have set up regulatory frameworks for stored-value card where existing legislation has been amended to accommodate their regulatory strategies on this product.[10] As for Malaysia, even though the payment systems legislation[11] has been enforced for more than three years,[12] with

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[6] *See* 'A Framework for Global Electronic Commerce' (n 2) and A Greenspan 'Fostering Financial Innovation: The Role of the Government' in Dorn JA (ed) *The Future of Money in the Information Age* (Cato Institute United States 1997) 45-50.

[7] Singapore and Hong Kong are selected because, like Malaysia, the governments in these emerging economies have specifically included development of electronic money schemes as part of their plan to develop ICT. As this thesis will focus on issues relating to regulatory framework on electronic money in Malaysia, initiatives and challenges faced by Singapore and Hong Kong will be discussed throughout this thesis for the purpose of comparison only. *See* section IV under A and B.

[8] *See* Hong Kong Banking (Amendment) Ordinance 1997, and Singapore Banking Act where section 77A is included to provide provisions for stored-value cards.

[9] The initiative to formulate the regulatory framework for electronic money only includes stored-value card. *See* Chapter 3 section IV under D and E for Hong Kong and Singapore.

[10] *See* Hong Kong Banking (Amendment) Ordinance 1997, and Singapore Banking Act where section 77A is included to provide provisions for stored-value cards.

[11] The Payment Systems Act 2003 (PSA).

[12] The PSA was enforced on 1 November 2003. *See Warta Kerajaan Malaysia 9 Oktober 2003 P.U. (B) 308 Akta Sistem Pembayaran 2003 – Penetapan Tarikh Permulaan Kuat Kuasa* (Malaysia Government Gazette 9 October 2003 P.U. (B) 308 Payment Systems Act 2003 – Appointment of Date of Coming Into Operation).

specific powers for the regulatory authority to provide regulation for any retail payment instrument, Bank Negara Malaysia (BNM), the Central Bank of Malaysia which is entrusted with regulation of electronic money, is yet to issue any specific policy on the product.[13]

The analysis of this thesis is limited to stored-value cards, electronic money scheme. Successful electronic money products in these emerging economies are yet limited to them[14] and legal and regulatory activities[15] have only been directed towards these products so far.[16] The proliferation of network money is not considered great enough to justify its regulation in these economies, and are not the subject of regulatory coordination as of yet.[17] As the main objective of this thesis is to consider facilitating the coordination of existing regulations, it is premature to include network money products at this time.[18]

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[13] Even though BNM under the PSA section 69 has the power to issue regulations, as of November 2005, no regulation has been issued on electronic money. BNM has only reported that they are in the midst of formulating regulations on stored-value cards. *See* Chapter 4 section V under A for further discussion on this issue.

[14] Stored-value cards have been successful and widely accepted as a mode of making payment in Hong Kong and Singapore. *See* Chapter 3 section II under D - 4 and 5 for stored-value card products in Hong Kong and Singapore. *See* also Chapter 4 section II under A, B and C for products in Malaysia.
From this paragraph onwards, when this thesis refers to electronic money, it means only the stored-value card products unless otherwise stated.

[15] The initiative to formulate the regulatory framework for electronic money only includes stored-value card. *See* Chapter 3 section IV under D and E for Hong Kong and Singapore and Chapter 4 section V under A for Malaysia.

[16] Even though this thesis will focus on stored-value card, it acknowledges the proliferation of network money products. For example, PayPal, which provides online payment services, currently has 71 million accounts in 56 countries. This service is provided where online buyer may make payment using credit card, debit card or using bank account for purchasing goods on eBay or payment to participating merchants worldwide. *Available at* <http://www.PayPal.com> last visited July 2005.

[17] This does not exclude the very likely possibility that network money will need to be considered in the regulatory context, given the fast growth of the product.

[18] With the proliferation of network money globally, it is inevitable that the regulatory agencies will need to consider its position in the near future.

This thesis will focus on issues related to cooperation among relevant authorities in implementing the relevant laws and regulations of electronic money. As the nature of electronic money involves various authorities, it is proposed that the sound and successful implementation of the regulatory framework for electronic money would largely depend on the coordination and cooperation among the relevant authorities. Also, a mechanism endorsed by the relevant authorities in order to acknowledge and implement effective coordination that is to be established is assessed.

This chapter introduces the development of ICT and how it is perceived by emerging economies[19] such as Hong Kong and Singapore before turning to Malaysia. Analysis of Malaysia will be based on its in developing ICT, including the creation of a legal foundation for electronic money. The founding of cyberlaws[20] at the early stages of ICT has resulted in many challenges for the implementing authorities. One of the challenges is coordinating the cyberlaws and the existing legislation.

The enactment of various new legislation has signalled the governments' willingness to 'hold the hands' of the industries in developing ICT. This is despite the governments' recognition that private industries should take the lead in developing ICT. As government-led development of ICT is not optimal in the long term, the rationale behind this approach is examined.

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[19] The importance of ICT in economic development will also be discussed. It has been recognised by the Asian-Pacific Economic Corporation (APEC) countries that ICT has an enormous potential to assist economies in achieving specific economic development goals. ICT enables increased access to education and training services, the extension of additional health services to rural communities and offers social inclusion for all sectors of the community. *See* Malintachinda P (Ambassador) 'Knowledge Economy' Speech by the APEC Secretariat Executive Director at the OECD-APEC Global Forum on the Knowledge Economy in Honolulu Hawaii on 15 January 2003. *Available at* <http://www.apec.org.apec/news> last visited March 2004.

[20] Cyberlaws are various legislation that were enacted for the purpose of developing ICT in Malaysia. These laws are related to the development of initial flagship applications under the Multimedia Super Corridor (MSC) since 1997. *Available at* 'Cyberlaws' <http://www.msc.com.my> last visited July 2004.

Finally, the regulatory framework for ICT in Malaysia is considered.[21] This chapter will act as a prelude to the issues of electronic money that stem from this technological development.

II What is Information and Communications Technology (ICT)?

The concept of ICT is not new and has been in existence for some time. ICT is used to deliver information and is a means of communication. However, the method of delivering information and communication is different from conventional methods. For example, through the Internet, any person can retrieve information quickly and within the convenience of his home. Technology has made it possible to deliver information and communications through various channels and in unified modality. It has also made possible the integration of products that will allow the availability of information and communication to be more rapid and convenient.[22]

ICT is a generic term covering computers, broadcasting, telecommunications, data networks and smart components that are being increasingly applied in diverse uses.[23] It consists of computer systems, data communication systems, knowledge systems, office systems and consumer electronics.[24]

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[21] There are three levels of regulation in relation to the thesis, ICT, electronic retail payment systems and electronic money. This thesis, itself, addresses only the final level, electronic money regulation.

[22] For example, the mobile telephone with Wireless Application Protocol (WAP) technology, which is a wireless communications standard developed jointly by Ericsson, Nokia, Motorola and Phone.com, is no longer just a telecommunication product. It can now access e-mails, conduct electronic commerce services and do mobile banking transactions. *See* Pountain D *The New Penguin Dictionary of Computing* (Penguin Books Ltd United Kingdom 2001) 550.

[23] Definition taken from Economic and Social Survey of Asia and the Pacific 1999, conducted by Development Research and Policy Analysis Division (DRPAD) of the United Nations Economics and Social Commission for the Asia and the Pacific (UN ESCAP). *Available at* <http://www.unescap.org/drpad/publication/survey1999> last visited March 2002.

[24] *Ibid.*

ICT that leads to the information superhighway,[25] provides connectivity for any conceivable transaction, including trading, banking and financial transactions, delivery of services such as airline tickets, books, newspapers, music and home shopping.

The Internet is the biggest vehicle used to provide linkage for delivering information and communications. To understand the Internet, it is important to know the origin of it. The Internet is a data infrastructure that connects computers via a telecommunication network. [26] It originated in the 1960s and the 1970s, when the United States Department of Defence Advanced Research Projects Agency (ARPA) funded a small group of computer programmers and electronic engineers to redesign the way computers were operated. This resulted in the creation of ARPANET, the first network of computers. Internet, the successor of ARPANET, was sponsored in the 1980s by the National Science Foundation.[27]

The Internet has many interpretations and for the purpose of this thesis, it would be sufficient to state the most uncomplicated meaning of the Internet. The Internet is a group of networks.[28] The network is simply a group of computers that are linked together.[29] The basic function performed by the Internet is to transport digital information from one computer to another.[30] The Internet is no more than a communications technology where any type of information, which can be translated to digital form, can be transported.[31]

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[25] Information superhighway is a jargon used for a future broadband-capable-Internet. The term was invented during the early 1990s. *See The New Penguin Dictionary of Computing* (n 22) 243.

[26] One of the sources is the Bank for International Settlements (BIS). *See* Committee on Payment and Settlement Systems Secretariat 'Security of Electronic Money' Bank for International Settlements 1996.

[27] *Ibid.*

[28] *See* Terrett A and Monaghan I 'The Internet – An Introduction for Lawyers' in Edwards L and Waelde C (eds) *Law & the Internet – A Framework for Electronic Commerce*, (2nd edn Hart Publishing Oxford-Portland Oregon 2000) 1, 1-2.

[29] *Ibid.*

[30] *See* Reed C *Internet Law: Text and Materials* (Butterworths United Kingdom 2000) 8.

[31] *Ibid.* The most common types of information are text, numerical data, images, sounds and video.

III What ICT Means to Emerging Economies

The late 20th century can be called the 'information age'. A hallmark of the closing years of the 20th century was marked by the intensification of the globalisation process.[32] The rapid spread of ICT is both an outcome and a determinant of this process, which has manifested itself in accelerated movements of goods, services, factors of production and technology across national boundaries.[33] Even though there are escalating risks associated with the use of ICT,[34] there are greater positive outcomes from the continuing improvements in ICT.[35] Companies, institutions, governments, education and private lives among others are enabled and dominated as never before by the now ubiquitous computer and Internet.

The impact of ICT in boosting economic growth both in the industrialised countries and the emerging economies is discussed in this section. It is important for emerging economies to support the advance of ICT in order to keep abreast with the rapid technological advance of the developed world. The emerging economies believe that this technology may transform their nation and bring tremendous gains to businesses and consumers.[36]

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[32] With globalisation and convergence of technology, there is a revolution in services in which ideas (content) are more powerful than physical products. *See* Sheng A 'Hong Kong and Japan in East Asian Finance' Keynote Address by Deputy Chief Executive (Monetary) of the Hong Kong Monetary Authority at the seminar organised by Nikko Research Centre (Hong Kong) Limited and Mitsubishi Research Institute entitled 'Hong Kong After the Handover' in Hong Kong on 11 April 1997. *Available at* <http://www.info.gov.hk/hkma/eng/speeches> last visited May 2002.

[33] *See* Endeshaw A *Internet and E-Commerce Law, With the Focus on Asia Pacific* (Prentice Law Singapore 2001) 5 -13.

[34] *Ibid.* There are many risks associated with the rapid development of ICT, which not only include issues such as financial stability, security and personal privacy but also social and cultural concerns. This is because IT transforms the society and affects fundamental interpersonal lives at work and in the family.

[35] *Ibid.* For example, the changes in organisations occasioned by Information Technology (IT) are the use of teleconferencing, telecommunicating and export of information-related jobs.

[36] Initiatives taken are not only at the national level but also at the regional level. *See* section VI.

The initiatives taken by the developed world in developing ICT started in the early 1990s with the building of information highways or electronic highways. In December 1993, the United States released a report outlining plans for developing and deploying the 'National Information Infrastructure' or NII.[37] The approach taken under this report emphasises government and private sector partnerships, with the private sector taking the lead in developing NII.[38] The agenda for action sets the basic goals of the NII, which include sectors such as education, arts, healthcare, employment, commerce, entertainment, and government reforms.[39]

The European Union (EU) under the 'Europe and the Information Society – Recommendations to the European Council', also known as the Bangemann Report, was published in June 1994.[40] This Report includes setting up the general framework for the future European information infrastructure. It suggested a number of recommendations to the European Council, which aimed at revolutionising communication throughout

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[37] NII goals are to make educational resources available without regard to geography, to make arts more available without regard to geography through resources from big city museums and libraries, to improve healthcare and social welfare system, to improve employment by allowing people to telecommute, improving commerce by giving small manufacturers access to global commerce, improving entertainment by creating home access to video and shopping and having government reforms by obtaining information directly and government benefits electronically. *See* Munir AB *Cyberlaw – Policies and Challenges* (Butterworths Asia Malaysia 1999) 20.

[38] While the private sector will take the lead, the government also has an essential role to play. In enhancing the partnership, the government will be guided by the following nine principles and goals: -

i. To promote private sector investment, through tax and regulatory policies that encourage innovation and promote long-term investment, including procurement of services;
ii. To extend the 'universal service' concept to ensure that information resources are available to all at affordable prices;
iii. To act as a catalyst to promote technological innovation and new applications and to commit important government research programs and grants to help the private sector develop and demonstrate technologies needed for the NII;
iv. To promote interactive, user-driven operation of the NII;
v. To ensure information security and network reliability;
vi. To improve the management of radio frequency spectrum;
vii. To protect intellectual property rights;
viii. To coordinate with other levels of government and with other nations; and
ix. To provide access to government information and improve government procurement.

Available at 'The Administration's Agenda for Action' <http://www.ibiblio.org/nii/NII-Agenda-for-Action.html> last visited September 2005.

[39] *See Cyberlaw – Policies and Challenges* (n 37) 15.

[40] *Ibid* 16.

Europe. It is hoped that it will strengthen the competitive position of Europe in a global and inter-dependent economic system.[41]

The report recommended ten applications for the European Superhighway, all of which are crucial for member states. Areas targeted are teleworking, distance learning and continuing professional developments, telematic services for small and medium-sized companies, road traffic management, air traffic control, health care network to link all general practitioners, hospitals and social centres, electronic tendering, trans-European public administration network, and city information highways supplying video on demand, home banking and tele-shopping.[42]

Emerging economies have recognised that while there is a real technological gap between developed and developing countries, technology is the key to narrowing and eventually eliminating the economic gap between the two groups.[43] ICT is seen as essential for advancing the emerging economies.[44] For example, the United States is the most advanced in terms of ICT and economic power.[45] In 1998, over 50 % of all Internet users were in the United States. The majority of electronic commerce is also centred in the United States and is likely to be so in the near future.[46]

The already existing advantage of developed countries makes 'catching up' difficult. The global shift to an 'Information Society,' in which service products overtake the primary and secondary sectors, makes the information industry an important sector to

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[41] *Ibid.*

[42] *Ibid* 27.

[43] *See* Johnson DJ, Secretary General of the Organisation for Economic Co-operation and Development, during the *Dubai Emerging Markets Economic Forum (EMEF)* on 16-17 February 2001 in Dubai. *Available at* <http://www.internetnews.com/bus-news/article.php> last visited November 2002.

[44] *Ibid.*

[45] *See* Winn J 'Catalytic Impact of Information Technology on the New International Financial Architecture' 34 *The International Lawyer* 137 (2000).

[46] *Ibid.*

the world economy. The shift from 'Industrial' to 'Information Society' is dependent on the penetration and the use of ICT, which facilitates the movement of information. There is a significant disparity between developed and developing countries in the distribution of ICT depending on the availability of infrastructure.[47] Technology can increase the gap between the rich and poor countries worldwide by developed countries capitalising on the already existing efficiency of production, and being able to develop new sources of economic development.[48] In particular, ICT can create powerful social and economic networks through the improvement of communications and exchanges of information, which in turn can provide a basis for major economic advances to the developed countries.[49]

Some emerging economies have set out long-term plans of development. Governments in emerging economies have recognised that to develop a new and rapidly changing technology, initiatives from the private sector is essential. [50] As resources on knowledge economy are scarce,[51] governments in emerging economies acknowledge that they have to use the expertise and guidance of the private sector.

There is also evidence that ICT is not only creating new alternatives, but is also bringing about compelling changes to the industries' landscape which may threaten traditional methods of business.[52] For example, the development of Internet Banking has

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[47] United Nations Educational Scientific and Cultural Organization (UNESCO) states that in 1996 the United States, Europe and Japan accounted for 68% of the world's telephone lines and 79% of the world's personal computers. However, the African continent has only 1.8% and 1.3% respectively. *Cited from* Fitzpatrick S 'Prospects of Further Copyright Harmonisation' 25(5) *European Intellectual Property Review* 215-223 (2003).

[48] *Ibid.* For example enhancing the education and transportation systems and even modernising the banking system for the country.

[49] *Ibid.*

[50] *See* section IV under A and B for Singapore and Hong Kong and section V for Malaysia.

[51] For example, the prevalence of Internet is low.

[52] *See* Aziz ZA 'Banking and ICT Developments: Legal Issues' Keynote address by Governor of the Central Bank of Malaysia at the Banking and Financial Law School 2001 organised by Bank Negara Malaysia in Kuala Lumpur Malaysia on 24 – 26 April 2001. *Available at* <http://www.bnm.gov.my> last visited February 2002.

changed the way people conduct their banking transactions.[53]

IV General Initiatives Taking Place in Developing ICT

Recognising that ICT can enhance growth within all economic sectors, resources have been set aside by the emerging economies for its development. Even though the initiatives taken by these emerging economies are not alike, the approach and objectives are similar.

Initiatives to develop ICT have been taking place since the early 1990s.[54] This section[55] will highlight the initiatives taken by Singapore and Hong Kong, before focusing on Malaysia. These two emerging economies have shown their commitment and interest in developing ICT like Malaysia and have demonstrated constant progress in its development since the initial roll out. This includes initiatives on developing the regulatory framework in relation to ICT.

A. Singapore

Singapore's entry into the information age began in the 1980s when its civil service was computerised and consequently, training for Information Technology (IT) was taken up.[56] Over the past decade, Singapore has developed substantial national IT capability, suitable for private and public sectors to collaborate in exploiting ICT development.[57]

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[53] *Ibid.*

[54] This section will show the initiatives taken by the governments of emerging economies such as Singapore and Hong Kong.

[55] *See* section IV under A and B.

[56] *See Internet and E-Commerce Law, With the Focus on Asia Pacific* (n 33) 89.

[57] *See* Luh LL and Lwin MO 'An Overview of E-Commerce Laws and Policies in South-East Asia' *International Company and Commercial Law Review* (1999) Spe 55-60.

The Singapore Government has charted its future direction towards a developed country.[58] The government aims to make Singapore a developed city of distinction, gracious living and a cultured society.[59] One response to this was the formulation of the ICT policy by the country's National Computer Board, called IT2000 - A Vision of an Intelligent Island.[60] The National Computer Board's mission is to make Singapore excel in the information age by exploiting ICT extensively to enhance Singapore's economic competitiveness and quality of life. IT2000 aims to transform Singapore into an intelligent island, where business, society and government would be interlinked through a national information infrastructure.[61]

IT2000, launched in 1992, provides a framework to guide ICT to the 21st century.[62] The goal is to impact not only the work place but also homes and schools, by interconnecting computers in every home, office, school and factory.[63] The idea is to evolve the computer into an information appliance, combining functions of the telephone, the computer and the television, and to provide a range of communication means and access to services.[64] The Government of Singapore targeted five strategic themes in making Singapore an intelligent island.[65]

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[58] *See* Kahaner DK 'Singapore's IT2000' Asian Technology Information Program (ATIP) Singapore 1996. *Available at* <http://www.atip.org> last visited April 2002.

[59] *Ibid.*

[60] The National Computer Board released the IT2000 Report in 1992. *See* Lim JJ 'Singapore's ICT Policy for the New Millennium: Implications for SMEs' Institute of Southeast Asian Studies 2001. *Available at* <http://www.econs.ucsc.edu/grads/jamus/papers3.pdf> last visited July 2002.

[61] *Ibid.*

[62] IT2000 is the third in a series of National Information Technology Plans, preceded by the Civil Service Computerisation Programme (1981) and the National Information Technology Plan (1986). *See* 'Singapore's IT2000' (n 58).

[63] *Ibid.*

[64] *Ibid.*

[65] *See* Choo CW 'IT2000: Singapore's Vision of an Intelligent Island' in Droege P (Ed) *Intelligent Environment* (North-Holland Canada 1997). *Available at* <http://www.fis.utoronto.ca> last visited April 2002. All five strategies are discussed in this article.

1. Developing a Global Hub

Singapore hopes that IT2000 will turn the country into an efficient switching centre for goods, services, capital, information and people, as well as a hub for businesses, services and transportation. Singapore also aims to become one of the global centres for science and technology, a high-value location for production and an important node in the global networks of commerce, communications and information.

2. Improving the Quality of Life

A key challenge of IT2000 is to use IT to improve and transform people's lifestyle. IT will be used to transform work in the office, where access to information and information-based transaction services will be made available via desktop computer.

3. Boosting the Economic Engine

The Singapore Government believes that IT can help in developing high value-added manufacturing with links to lower cost manufacturing centres in the region and world markets. This can increase Singapore's efficiency as a regional distribution and retailing centre. The construction industry can use the fast and efficient exchange of information, documentation and drawings to improve competitiveness and at the same time, foster local and international collaborations.

4. Linking Communities Locally and Globally

The Government of Singapore hope that IT will help strengthen social bonds by electronically allowing individuals to form their own communication links with the outside world.

5. Enhancing the Potential of Individuals

Singapore predicts that in years ahead, skills, creativity and knowledge will become more important, and worker re-training will be continuously required. In the IT2000 plans, people who require these skills can get access to education where new teaching methods, multimedia learning packages and aids will be available.

Singapore has been systematic in developing its ICT. This is shown by the long term planning of the government. IT2000 and subsequent consolidation and liberation pave the way for Infocomm 21,[66] which further guides the development of ICT for the next ten years. The objective of Infocomm 21 is to transform Singapore into a dynamic and global ICT capital.[67]

B. Hong Kong

In realising the Chief Executive's IT vision, the Information Technology and Broadcasting Bureau of the Hong Kong Special Administrative Region Government commissioned the 1998 Digital 21 Strategy in November 1998.[68] The strategy was focused on building Hong Kong's information infrastructure and setting an environment for electronic business to prosper. The primary focus of 1998 Digital 21 was to build infrastructure to support information, economy and to create a strong foundation for growth in the use of IT.[69] Since the development of the 1998 Digital 21, electronic business, electronic transaction and interactions among government, businesses and

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[66] Infocomm 21 is the Infocomm Development Authority of Singapore's (or IDA, which is the telecommunications regulator of Singapore) blueprint for harnessing information communication technology for national competitiveness and improving Singapore's quality of life. *Available at* <http://www.ida.gov.sg> last visited April 2002.

[67] *Available at* 'Objectives of Infocomm 21' <http://www.ida.gov.sg> last visited April 2002.

[68] *See* The Executive Summary of the Information Technology and Broadcasting Bureau '2001 Hong Kong Digital 21 Strategy: Connecting the World' Government of Hong Kong Special Administrative Region 2001, on the executive summary. *Available at* <http://www.info.gov.uk/digital21> last visited April 2002.

[69] *Ibid.*

citizens have become the primary drive for the information economy. Electronic business has taken off spectacularly and is forecasted to grow.[70]

The revised 2001 Digital 21 Strategy, released in May 2001, is to further position Hong Kong as a leading electronic business community and a global digital city. It is focused on promoting further developments in the information economy to improve the overall wealth, economic and social prosperity of Hong Kong.

The strategy of 2001 Digital 21 covers five key areas that need to be achieved.[71]

1. Enhancing Electronic Business

The objective of the first key area is to ensure that the private sector is supported by a world-class electronic business infrastructure and environment. This will not only attract international investors and companies to Hong Kong but also facilitate local electronic business companies to explore overseas markets and cooperate with their potential partners overseas.

2. Government Initiatives on Electronic Government

The electronic government will provide electronic options for more services and actively pursue electronic procurement and outsourcing. IT will be introduced in public service sectors for the benefit of its users. Hong Kong Government services delivery mechanisms, processes and structures will also transform through the use of IT.

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[70] *Ibid.*

[71] All five key areas are stated in the executive summary of The Information Technology and Broadcasting Bureau '2001 Hong Kong Digital 21 Strategy: Connecting the World' Government of Hong Kong Special Administrative Region 2001. *Available at* <http://www.info.gov.uk/digital21> last visited April 2002.

3. Improvement on Quality and Quantity of Local Information Technology (IT) Power

The objectives are to implement effective short and medium term measures to address immediate IT skills required in the market and to cultivate an environment to create an IT literate workforce, and also to adopt long term and sustainable solutions to secure a skilled IT workforce in the future.

4. Improvement on Accessibility for Equal Opportunity

In strengthening Hong Kong's community for digital exploitation, improvement of accessibility, especially for those with fewer opportunities to use IT, is considered important. This is seen to be crucial to cultivate the community so that they can take advantage of the information economy. Facilities will be provided to ensure that the community can adopt the innovations in IT applications. Internet, computers, telecommunications and other IT facilities will be made available to all sectors and communities.

5. Leverage from New Technologies to Strengthen Services and Products

New technologies in areas of wireless communication, smart card technology, digital broadcasting and the Internet will be exploited. The objectives are to gain leadership position globally in the awareness and adoption of emerging technologies for electronic business and to be a leading global centre for the development of applications, content and services that utilise these new technologies.

C. Developments to Date

The initiatives taken in emerging economies such as in Singapore and Hong Kong have proved that they recognise ICT and the associated services and applications as one of the largest and most dynamic industries in today's global economy.

As a consequence, governments and businesses in these emerging economies focus the development of ICT through strategising the industries' growth by managing a wide range of new policy issues. But the broader significance of ICT lies in its pervasive impact beyond the industry's boundaries. Perhaps due to uncertainty on the impact that ICT can bring, economies such as Singapore and Hong Kong have taken the approach to target all areas.

V Malaysian Initiatives

The focus of this thesis is on Malaysia being a country with the potential to develop an integrated ICT industry. Malaysia has transformed from an agricultural economy focused on rubber, palm oil and petroleum into a manufacturing economy focusing on electrical, electronic, IT and multimedia technology products and components.[72]

Despite being hard hit during the Asian economic crisis between 1997 and 1998, Malaysia is politically stable. The country is managed by a ruling coalition which harmonises the political needs of different ethnic communities, and which has provided political stability for more than 40 years.[73] Malaysia is one of the newly industrialised economies of East Asia, along with Taiwan, Korea, Hong Kong, and Singapore. Before the economic slow down in 1998, the strength of the economy was demonstrated by high savings rate in an environment of stable prices, low external debt and government fiscal surplus for five consecutive years since 1993.[74]

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[72] Malaysia's economy was first planned in 1955 but its First Malaysia Plan was only introduced in 1966 and governed a five-year plan. The Malaysia Plan has now reached its eighth plan, which will be completed by the end of 2005. The Eighth Malaysia Plan takes into consideration Malaysia Vision 2020 which started in 1991 and will be completed in 2020. This long term planning reflects the vision of a fully developed and industrialised Malaysia by the year 2020. *See* Okposin SB, Abdul Hamid AH and Ong HB *The Changing Phases of Malaysian Economy* (Pelanduk Publications (M) Sdn. Bhd. Malaysia 1999) 44.

[73] *Available at* 'History of Malaysia' <http://www.itri.loyala.edu> last visited May 2002.

[74] *See* Bank Negara Malaysia *The Central Bank and the Financial System in Malaysia - A Decade of Change 1989 - 1999* (Bank Negara Malaysia Publication Malaysia 1999) 41.

It has been reported that the number of Malaysian Internet users was 2.5 million in 2001 and increased by 20% by the first half of 2005.[75] The Malaysian population is also relatively young with 42% being within the 15 to 39 age group, thereby promising the country a large pool of knowledge workers to sustain the country's growth in the development of ICT in the new economy.[76]

The Eighth Malaysia Plan, which covers the period of 2001 to 2005,[77] provides the framework and strategies for the next phase of development for Malaysia. This plan represents the first phase in the implementation of the Third Outline Perspective Plan (OPP3), a plan for a ten-year period from 2001 to 2010.[78] The OPP3 has the objectives to strengthen the Malaysian economy and to outline its commitment to develop Malaysia into a knowledge-based society.[79]

Commitment from the government in ensuring that the country will move towards a knowledge-based economy can be seen from its long-term planning. The infrastructure and resources in Malaysia are important elements in ensuring a continuous development of ICT. The long-term plans include ICT as an important factor for further growth and consistency.

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[75] Research conducted by IDC Market Research (M) Sdn Bhd.
Available at <http://www.idc.com/resercah/viewtoc> last visited August 2005.

[76] *See* Ariff I and Goh CC *Multimedia Super Corridor* (Leeds Publications Malaysia 1998) 109.

[77] *See The Central Bank and the Financial System in Malaysia- A Decade of Change 1989 - 1999* (n 74) 48.

[78] Outline Perspective Plan (OPP) provides direction for the development of the Malaysian nation and the policy agenda for the future. OPP1 was between 1971 and 1990 and OPP2 was between 1991 and 2000. *See The Changing Phases of Malaysian Economy* (n 72) 44-45.

[79] *See* Mohamed M, Prime Minister of Malaysia's speech when tabling the OPP3 in Parliament on 3 April 2001. *Available at* <http://www.ids.org.my/planpolicy/third_outline_perspective_plan_.htm> last visited March 2002.

A. Malaysia's Vision 2020

There is no doubt that Malaysia has been committed to developing ICT since 1991 with the launching of Vision 2020 program. This program, which aims to make Malaysia a developed nation by the year 2020,[80] included the development of IT in its agenda.[81] Malaysia, which is guided by a five-year plan, has made Vision 2020 program as a backdrop in providing the agenda to set out goals and objectives for long-term development.[82]

Under the Vision 2020 program, the development of ICT has been closely related to the development of the economy. In establishing a competitive economy, the agenda under this program includes technological factors as one of its main concerns in developing the economy. To have a diversified and balanced economy,[83] the country must be able to adapt to changing patterns of supply, demand and competition. As such, the economy must be technologically proficient, able to adapt, innovate and invent, to an increasingly technology-intensive world and moving towards higher levels of technology.[84]

It is not by accident that there is no wealthy and developed nation that is information-poor, and *vice versa*, no information-rich country that is poor and

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[80] The Prime Minister quoted developed countries such as the United Kingdom, Canada, Holland, Sweden, Finland and Japan in making comparison by what it means by Malaysia having to achieve developed nation status. *See* Mohamed M 'Vision 2020 – The Way Forward' Text of the Working Paper Presented by Malaysian Business Council Chairman and Prime Minister of Malaysia at the 1st Plenary Meeting on 28 February 1991 at Kuala Lumpur Malaysia. *Available at* < http://www.jaring.my/isis/mbc/2020> last visited May 2002.

[81] *Ibid.*

[82] *Ibid.*

[83] *Ibid.* 'Diversified and balanced' means that the industrial, agricultural and service sectors are all equally matured, efficient and productive.

[84] *Ibid.*

undeveloped.[85] Based on this, Malaysia has set in place institutional and support infrastructures to ensure the development of technological capabilities.

One of the policies identified under the Vision 2020 program is that there must be collaboration between the public and private sectors. However, the private sector has to take the leading role while the public sector's function is to facilitate this.[86] The direction under Vision 2020 is therefore to ascribe the private sector with the task of generating economic growth, maintaining competitiveness and gaining recognition in the global market.[87]

Under the policies for economic growth, the Government of Malaysia is responsible for overseeing and providing the legal and regulatory framework.[88] In providing this framework, the public sector has to create environments conducive to achieving economic growth, and to facilitate the private sector's performance of its functions within the given legal and regulatory parameters.[89] The public sector also has the duty to consistently review and improve the legal framework to further facilitate the private sector.[90]

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[85] *Ibid.*
However, notably, in the case of South Korea which although not one of the developed countries, the proliferation of the Internet is great. Based on the data as at end of 2004, South Korea is among the top 15 countries in the world that has the most Internet users (seventh in the rank). The United States, China, Japan, Germany, India, the United Kingdom ranked from first to sixth. *Available at* 'Table 1.4 Top 15 Countries in Internet Users 2004' <http://www.etforecasts.com/products/ES_intusersv2.htm> last visited September 2005.

[86] *See* 'Malaysia Incorporated: Private Sector – Public Sector Collaboration' in Abdul Hamid AS (ed) *Malaysia's Vision 2020* (Pelanduk Publications (M) Sdn. Bhd. Malaysia 1995) 369, 375.

[87] *Ibid.*

[88] *See* 'Vision 2020 – The Way Forward' (n 80).

[89] *See* 'Malaysia Incorporated: Private Sector – Public Sector Collaboration in *Malaysia's Vision 2020* (n 86) 369, 372.

[90] *Ibid.*

However, the role of the government in providing a legal and regulatory framework is inconsistent with another policy for economic growth, de-regulation. De-regulation ensures exports are competitive in the international market.[91]

The implementation of the privatisation policy is one of the policies set by the Government of Malaysia.[92] The aim is to enhance competition and reduce administrative and financial burdens of the government. The government is committed to essential services being easily accessible to the public, and guarantees that quality services will be provided at minimum cost and that monopolistic practices will be avoided.[93] A balance will need to be struck to distinguish between those laws and regulations which are harmful and those which are not.[94]

The development of human resources is crucial. The most important elements are the talent, skill and creativity of the people. In order to set new standards for the public, the education system has been targeted to cater for both professionals and non-professionals.[95]

There are infrastructural problems that need to be resolved. The first is physical infrastructure. The second is a suitable institutional and legal environment that promotes the development of ICT. Malaysia has addressed both issues in its Multimedia Super Corridor (MSC) project whereby a new physical place conducive for the development of ICT was built. It has also highlighted education and training, a legal and tax-system

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[91] *Ibid.*

[92] *Ibid.*

[93] *Ibid.*

[94] The government also acknowledges that certain existing laws and regulations are unproductive and need to be repealed. As such, the process of de-regulation will be a continuing exercise. *See* 'Vision 2020 – The Way Forward' (n 80).

[95] *Ibid.* Under Vision 2020 program, Malaysia already recognised the importance of IT development. The sixth challenge under this program states that Malaysia should establish a scientific, progressive and innovative society. Malaysian should not only be the consumer of technology but also contributor to scientific and technological civilisation.

friendly to entrepreneurs, and an effective policy on competition as important considerations to develop ICT.

A major step in ensuring that ICT develops as planned started in 1995 with the setting up of the National Information Technology Council (NITC).[96] The fundamental role of the NITC is to advise the government on ICT policies and strategies, and assist in its implementation.[97]

B. Development of Multimedia Super Corridor (MSC)

In attempting to resolve the issues on infrastructure, which include physical infrastructure, a new strategically located area was created for the purpose of the MSC project. The MSC is a 'corridor'-like area, 15 kilometres wide and 50 kilometres long, starting from Kuala Lumpur City Centre, down south to the site of the international airport, the Kuala Lumpur International Airport which was opened in 1998.[98] The MSC is bounded by the Shah Alam Expressway in the north, the Kuala Lumpur-Seremban Highway in the east, and the North-South Expressway Central Link in the west.[99]

The aim of the MSC project is to make an ideal environment to attract international companies to use Malaysia as a regional and even an international information hub. The long-term objective is to encourage the development of a highly competitive cluster of Malaysian Multimedia and IT companies that will eventually become world class.[100]

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[96] *Available at* 'Multimedia Super Corridor' <http://www.msc.com.my> last visited May 2002.

[97] *Ibid.*

[98] *Available at* 'Multimedia Super Corridor on Multimedia Development Corporation Infrastructure' <http://www.msc.com.my/mdc/infrastructure> last visited March 2002.

[99] *Ibid.*

[100] *See* Mohamed M *Multimedia Super Corridor* (Pelanduk Publications (M) Sdn. Bhd. Malaysia 1998) 29.

The MSC will bring together four key elements to provide a favourable environment for IT and multimedia companies; namely, the creation of a new physical infrastructure,[101] the enforcement of new laws, policies and practices,[102] the building of a high capacity global communications and logistic infrastructure,[103] and the creation of a new fully empowered one stop agency to manage and market the MSC.[104]

1. Initiatives Taken Under the MSC

As discussed in the previous section, Malaysia's initiative in the development of ICT is not the only one of its kind among emerging economies.[105] However, Malaysia's initiative is far more extensive compared to other emerging economies since Malaysia is not only trying to develop and encourage ICT by providing the soft infrastructure, it is also developing a whole new physical area to attract international companies.[106]

Malaysia has divided the development of MSC into three phases within a 20-year time frame. The first phase is the creation of MSC itself to attract a core group of world-

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[101] Physical infrastructure includes Kuala Lumpur City Centre, a new international airport, rapid rail links to Kuala Lumpur and Cyber Jaya, which is the hub for commercial activities, and Putra Jaya that is the centre for government activities. *Available at* 'Multimedia Super Corridor' <http://www.msc.com.my> last visited May 2002.

[102] *See* section V under B - 6.

[103] Key telecommunications network features that will link the MSC to regional and global centres include MSC's 2.5-gigabit to 10 gigabit digital optical fibre backbone using the latest asynchronous transfer mode technology to provide fibre directly to buildings. This network will have 5-gigabit international gateways with direct links to the United States, Europe and Japan as well as other nations in South East Asia. *Available at* 'Multimedia Super Corridor' < http://www.msc.com.my> last visited May 2002.

[104] *See* section V under B - 3.

[105] *See* section IV under A and B.

[106] The infrastructure includes Multimedia University, opened in 1998, which introduced multimedia specific programs and accommodated skills requirements for companies located within the MSC. There are also eco-friendly amenities and facilities such as commercial and enterprise estates, residential and housing suburbs, an international school and other academic institutions. The MSC area is also connected by rapid train links and highways to Kuala Lumpur and the international airport. *See Multimedia Super Corridor* (n 100) 104 - 105.

class companies, launching the seven initial flagship applications,[107] introducing several new legislation to accommodate the development of ICT,[108] and establishing Cyberjaya[109] and Putrajaya[110] as modern technology cities. Under the first phase, the MSC is considered as a pilot project for harmonising the whole country in preparation for the information age.[111] It is also a process of learning from other countries' experiences. At this stage, the MSC will encourage the participation of not only the large companies, but also small local companies working collaboratively with one another and also with international companies.[112]

The second phase will link the MSC to other cities in Malaysia and the world. It will create a web of corridors and establish a second cluster of world-class companies.[113] It will also set global standards in flagship applications, enact cyberlaws within the global society, and establish a number of intelligent globally-linked cities.[114]

In the third phase, Malaysia hopes to be transformed into a knowledge-based society and be a global test bed for new multimedia and IT applications with multimedia

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[107] *See* section V under B - 2.

[108] The legislation are referred to as cyberlaws. *See* section V under B - 6.

[109] Cyberjaya is a new city built for multimedia industries, Research and Development centres, a Multimedia University and operational headquarters for multinationals wishing to direct their worldwide manufacturing and trading activities using multimedia technology. *See* 'Creating the Multimedia Super Corridor.' *Available at* <http://www.msc.com.my/overview> last visited May 2002.

[110] *Ibid.* Putrajaya is a new city which will be the seat of the Malaysian Government and administrative. The concept of electronic government will be introduced.

[111] *See Multimedia Super Corridor* (n 100) 30.

[112] *Ibid.*

[113] *Ibid.*

[114] *Ibid.*

companies.[115] It will have a cluster of cities linked to the global information super highway, and become the platform for the International Cybercourt of Justice.[116]

2. Flagship Applications

For the development and implementation of the flagship applications, the government has sought the assistance of leading local and international companies. The objectives of these flagship applications are summarised as: - [117]

i. To create innovative multimedia solutions that enable on-going productivity improvements through higher quality, more efficient provision of services; and
ii. To establish a highly competitive cluster of local and foreign multimedia companies who invest in multimedia technology and collaborate to transfer technology and foster growth in the multimedia industry.

The MSC flagship applications are divided into two categories, namely the multimedia development flagship applications to provide business opportunities to facilitate the MSC development, and the multimedia environment flagship applications, which provide an environment that supports multimedia companies entering the MSC.[118] The MSC flagship applications have long-term objectives, which complement Malaysia's Vision 2020. They are aimed at certain major fields in order to enhance ICT in Malaysia.[119]

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[115] *Ibid. See* also 'Multimedia Super Corridor'. *Available at* <http://www.msc.com.my> last visited May 2002.

[116] *Available at* 'Multimedia Super Corridor' <http://www.msc.com.my> last visited May 2002.

[117] *See* Government of Malaysia and Bank Negara Malaysia *Concept Request for Proposal – Multipurpose Card Flagship Application* (Bank Negara Malaysia Publications Malaysia 1997) 2.

[118] *Available at* 'Flagship Applications' <http://msc.com.my/mdc/flagships> last visited March 2002.

[119] Introduction of flagship applications is argued to set in motion certain agents, taking into account current realities and future uncertainties for the purpose of reinvention. *See Multimedia Super Corridor* (n 100) 10.

In order to accelerate the development of MSC, the Malaysian Government has targeted seven multimedia applications. The seven initial applications are the worldwide manufacturing web,[120] borderless marketing centres,[121] research and development cluster,[122] the smart schools,[123] the telemedicine, electronic government,[124] and the national multipurpose cards.[125] Two of the flagship applications have undergone minor changes. The worldwide manufacturing web and the borderless marketing centres have been grouped together under the heading electronic business,[126] while the telemedicine

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[120] Ministry of International Trade and Industries is the leading agency in developing the applications. *Available at* <http://msc.com.my/mdc/flagships> last visited March 2002.

[121] *Ibid.* Multimedia Development Corporation (MDC) is the leading agency to develop these applications.

[122] *Ibid.* The leading agency is the Ministry of Science, Technology and Environment. This application is to develop Research and Development (R&D) centres, universities and public research institutes. R&D is recognised as critical in building the foundation for a knowledge-based economy and is envisaged to make a significant contribution in helping Malaysia transform from a production to a knowledge-based economy. This cluster is also to ensure that the MSC is an attractive location for companies to develop next generation multimedia technologies and innovations. In addition, it will assist in improving human resource development, providing a test-bed for experimenting with innovations, promoting indigenous technology and encouraging technology transfer to Malaysia.

[123] *Ibid.* The leading agency is the Ministry of Education. The Smart School application is to enhance learning institutions through a 'Teaching-Learning' process of curriculum, pedagogy, assessment and teaching-learning materials. The process will enable students to practise self-assessed and self-directed learning that focuses on individual achievements and mind development. It is driven by the need for Malaysia to make the transformation from an industrial to an information-based economy. It is also a learning institution that has been systemically reinvented in terms of teaching-learning practices and school management in order to prepare children for the Information Age.

[124] *Ibid.* The leading agency is the Malaysian Administrative Modernisation and Planning Unit (MAMPU). This initiative is to lead Malaysia into the Information Age. The electronic government application will make an improvement on the government's internal operation, as well as its delivery of services to the public. It seeks to improve: -

i. The convenience, accessibility and quality of interactions between citizens and businesses;
ii. Information flows and processes within government in order to achieve speed and quality of policy development, coordination and enforcement;
iii. The role in catalysing the development of the MSC; and
iv. In furthering political and economic development goals in Vision 2020.

[125] *Ibid.* The leading agency is Bank Negara Malaysia (BNM) or Central Bank of Malaysia.

[126] *Ibid.* These applications aim to shape an electronic business environment competitive with major economic powers. This cluster is recognised as having the potential market that could be one of the driving forces for future economic growth. They also aim to provide efficient and quality services to the community, and encourage business and community to accept electronic business as part of their daily lives.

has changed its name to telehealth.[127]

3. Multimedia Development Corporation (MDC)

The MDC was established in 1996 by the Malaysian Government as the agency to spearhead the development and implementation of the MSC. This corporation is established to act as a fully empowered, one-stop agency for the MSC. Its function is to facilitate the applications of multinational and local companies to set up their MSC-Status companies[128] within the MSC area. The MDC also has the role to globally market the MSC, formulate the MSC-specific laws,[129] policies and practices by advising the Malaysian Government, and standardise MSC's information infrastructure and urban development.[130]

The MDC has the objectives to cut through the proverbial bureaucratic red-tape, to provide timely information and good advice, to expedite licence approvals, and to introduce companies to potential local partners and financiers. The MDC guarantees a 30-day turnaround for applications and coaching companies through the application process.[131] For most business requirements, MSC-Status companies need not seek approval from other government agencies but only need to apply to MDC.[132]

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[127] *Ibid.* The leading agency is the Ministry of Health. The telehealth initiative's aim to keep Malaysians in the 'wellness' paradigm. This process focuses on empowering the individual to greater access and increased knowledge in healthcare for personal health management. The integrated information increases the quality and speed along the healthcare chain.

[128] *See* section V under B - 5.

[129] Also known as the cyberlaws. *See* section V under B - 6 for cyberlaws.

[130] *Available at* 'Multimedia Super Corridor on Multimedia Development Corporation' <http://www.msc.com.my/mdc> last visited May 2002.

[131] *Ibid.*

[132] However, it is worth noting that MSC-Status companies can be wholly owned by foreign legal entities. These companies will need to be incorporated in Malaysia, or in the case of a foreign company seeking to establish a branch in Malaysia, the company has to be registered with the Registrar of Companies in accordance with the Companies Act 1965. MDC will assist with the incorporation of the company or in registering the company with the Registrar of Companies. *See Multimedia Super Corridor* (n 100) 50.

Perhaps the most important function of the MDC is to ensure that Malaysia will attract multimedia companies from other parts of the world. By attracting world-class companies, Malaysia aims to benefit from the investment made by the foreign companies. The MDC has to ensure that the leading multimedia companies collaborate with Malaysian companies to forge successful partnerships.

The MDC also has the responsibility to ensure that they facilitate knowledge transfer for companies and relevant government agencies. This is to ensure that Malaysia can collaborate to share the knowledge and create wealth. In promoting technology and knowledge, MDC has incentives for commercial Research and Development (R&D) through the establishment of MSC Central Incubators.[133] In enhancing domestic productivity, the MDC also has to ensure that the multimedia products and services are made available to other sectors of the economy. It has to facilitate innovation and entrepreneurship by supporting the development of financial infrastructure that provides venture capital and public listings for smaller companies.[134]

As knowledge is crucial, there is also support from the MDC to develop the skilled IT resources by facilitating the learning process across all age groups, producing guidelines for employee training, encouraging international exchange programs and supporting the National IT Service Program.[135]

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133 MSC Central Incubator is part of MDC, which aims to spawn entrepreneurship and create a critical mass for ICT and multimedia companies for the MSC. The core objectives are to provide cost effective facilities and to efficiently manage the infrastructure with value added business support and advisory services to start-ups so that they become financially viable, and to establish a network of incubators that can nurture talent, ideas and technological innovation to develop a pool of entrepreneurs. The MSC Central Incubator creates opportunities for tenants to leverage off the business activities of other MSC companies and entrepreneurs, as well as to expose them to overseas missions, promotions and other marketing activities. *Available at* 'Multimedia Development Corporation' <http://www.mdc.com.my> last visited May 2002.

134 *Ibid.*

135 *Ibid.*

4. Creation of the Ministry of Energy, Communications and Multimedia (MECM)

In the context of Vision 2020 and the MSC project, the MECM was established on 1 November 1998 through a restructuring of the Ministry of Energy, Telecommunications and Posts.[136] The reorganisation of the Ministry was necessary to develop a dynamic and robust energy, communications and multimedia industry, which is crucial for the success of the MSC.[137] This Ministry was formed with the intention of forming a single, integrated Ministry to develop the communications and multimedia industry based on the concept of convergence of telecommunications, broadcasting and computing services.[138]

Technological development has brought changes in communications, trade and industry, entertainment and recreation, giving rise to the convergence of the telecommunications, broadcasting and IT industries.[139] Convergence, which is made possible by the potential of digital technologies, requires new policy, regulatory and legislative frameworks as well as new institutional arrangements to manage and enable the development of new industry and market structures for communications and multimedia. Based on this convergence, the Ministry was set up to fulfil the need to regulate an increasingly convergent communications and multimedia industry.[140]

The restructuring of the Ministry also involved the setting up of the Malaysian Communications and Multimedia Commission (MCMC) on 1 November 1998.[141] The

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[136] *See* 'Overview of the Ministry of Energy, Communications and Multimedia.' *Available at* <http://www.ktkm.gov.my> last visited July 2002.

[137] *Ibid.*

[138] *Ibid.*

[139] *See* 'The Law' in Malaysian Communications and Multimedia Commission. *Available at* <http://www.mcmc.gov.my/mcmc/the_legislation.asp> last visited July 2002.

[140] *Ibid.*

[141] *See* 'Communications and Multimedia Commission.' *Available at* <http://www.ktkm.gov.my> last visited July 2002.

Commission[142] which was established under the Communications and Multimedia Commissions Act 1998 has the power to regulate the communications and multimedia activities in Malaysia and to enforce the communications and multimedia laws of Malaysia.[143] It will operate as the single and sole regulatory authority for all the communications and multimedia industry.[144]

With the setting up of the MCMC, the Department of Telecommunications, the predecessor of MECM ceased its operation. This was due to the convergence of the communications and multimedia industries, under the Communications and Multimedia Act 1998 (CMA). Based on this new legislation, the Telecommunications Act 1950 and the Broadcasting Act 1988 were repealed leading to the cessation of the department.

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[142] The role of the Ministry has shifted from being a service provider to a policy formulator and service regulator for the Energy, Communications and Multimedia sectors. The Ministry's main thrust is to facilitate and regulate the growth of industries in these sectors to ensure the availability of high quality, efficient and safe services at a reasonable price to consumers throughout the country. The regulatory function of the Ministry is undertaken through its regulatory bodies, namely, the Energy Commission and the MCMC. *See* Rahman AA 'Communications And Multimedia Policy And Development In Malaysia' Statement made by The Senior Principal Assistant Secretary of the Communications and Multimedia Sector under the Ministry of Energy, Communications and Multimedia Malaysia. *Available at* <http://www.mofa.go.jp/policy/economy/asem> last visited May 2002.

[143] *See* Communications and Multimedia Commissions Act 1998 Long Title and Preamble.

[144] The wide powers of the Commission are as follows: -

i. To advise the Minister on all matters concerning national policy objectives for communications and multimedia activities;
ii. To implement and enforce the provisions of communications and multimedia laws;
iii. To regulate matters relating to communications and multimedia activities not provided for in the communications and multimedia laws;
iv. To consider and recommend reforms to communications and multimedia laws;
v. To supervise and monitor communications and multimedia activities;
vi. To encourage and promote the development of communications and multimedia industry including in areas of research and training;
vii. To encourage and promote self-regulation in communications and multimedia industry;
viii. To promote and maintain the integrity of all persons licensed or otherwise authorised under the communications and multimedia laws;
ix. To render assistance, and to promote co-operation and co-ordination amongst persons engaged in communications and multimedia activities; and
x. To carry out any function under any written law as may be prescribed by the Minister by notification published in the Gazette.

The role of MECM is as a policy formulator and service regulator.[145] The intention is to develop and formulate strategies and policies, self-regulated frameworks[146] and establish an effective management system. Thus the Ministry has set out its objectives as follows: -[147]

i. To ensure continuous technological advancement for the energy, communications and multimedia industry through encouragement of research and development;
ii. To ensure efficient and effective universal delivery of energy, communications and multimedia services at affordable prices and to increase productivity of business and quality of life;
iii. To ensure secure and reliable supply or provision of energy, communications and multimedia services;
iv. To establish a dynamic and progressive regulatory system to promote market development and manage the impact of the energy, communications and multimedia industries on society and the environment; and
v. To continuously enhance corporate management support systems.

Although regulation in the form of licensing is provided for,[148] one of the cornerstones of the new regulatory framework is self-regulation by the various industries, including IT and multimedia content industries. To date, two industry forums, the Content Forum and the Consumer Forum, have been established and designated under the

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[145] *See* 'Malaysian Communications and Multimedia Commission.'
Available at <http://www.mofa.go.jp/policy/economy/asem> last visited May 2002.

[146] For example, under the CMA, the terms of licensing regime principles, the primary objective of licensing principles, is to be market driven and pro-competition, technology neutral, provide access and interconnection, and be transparent. *See* CMA Explanatory Statement Chapter 1 of Part VI paragraph 71 - 81.

[147] *Available at* 'Ministry of Energy, Communications and Multimedia' <http://www.ktkm.gov.my> last visited July 2002.

[148] CMA section 126.

CMA.[149] These industry forums are in the process of formulating voluntary industry codes to regulate relevant aspects of the industry.[150]

5. MSC-Status Companies

The MSC-Status is a recognition by the Government of Malaysia through the MDC for companies that participate and undertake its ICT activities in the MSC. A company seeking the MSC-Status has to fulfil three criteria before being eligible. The company in question must be: -

i. A provider or a heavy user of multimedia products and services;[151]
ii. Employ a substantial number of knowledge workers;[152] and
iii. Able to specify how the company will transfer technology[153] and knowledge to Malaysia, or otherwise contribute to the development of MSC and the Malaysian economy.[154]

Companies with MSC-Status are entitled to enjoy a set of incentives and benefits

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[149] *Available at* 'Malaysian Communications and Multimedia Commission' <http://www.ktkm.gov.my> last visited May 2002.

[150] *Ibid.*

[151] The company's business activities must directly participate and contribute to some segment of the multimedia value chain or the supporting products and services chain, which means that the MSC-Status companies may be contributors to or providers of the multimedia products and services, or they may be heavy users of these products and services. *See Multimedia Super Corridor* (n 100) 34.

[152] *Ibid* 48. The purpose of maintaining a work force utilising a substantial percentage of knowledge workers is due to Malaysia's long-term goal of enabling and sustaining productivity driven growth. The ratio of knowledge workers that is required in companies varies depending on the industries, but 15% will serve as a minimum ratio.

[153] *Ibid* 48 - 49. The specifications required are the overall objectives of the company, the present specific plans for how the company will affect the transfer or contribution, and demonstrate programs that are practical, which will promote the development of MSC.

[154] *Ibid* 34.

from the government, which is backed by the ten Bill of Guarantees.[155] Under the Malaysian Government's Bill of Guarantees, any company granted the 'MSC-Status' enjoys several financial and non-financial advantages.[156] Guided by the Promotion of Investment Act 1986, which was amended in 1997, MSC-Status companies, institutions and faculties may enjoy the financial benefits such as: -

i. Pioneer status will enjoy a 100% exemption from taxable statutory income where the incentive is granted for a period of five years for the first round;[157]
ii. A 100% Investment Tax allowance;[158]

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[155] *See* 'Bill of Guarantees' under this section.

[156] *Available at* 'Bill of Guarantees' <http://www.msc.com.my/mdc/msc/bog/asp> last visited May 2002. The Bill of Guarantees commits the government to the following: -

i. To provide a world-class physical and information infrastructure;
ii. To allow unrestricted employment of local and foreign knowledge workers;
iii. To ensure freedom of ownership by exempting companies with MSC-Status from local ownership requirements;
iv. To give the freedom to source capital globally for MSC infrastructure, and the right to borrow funds globally;
v. To provide competitive financial incentives, including no income tax for up to ten years or an investment tax allowance, and no duties on import of multimedia equipment;
vi. To become a regional leader in intellectual property protection and cyberlaws;
vii. To ensure no Internet censorship;
viii. To provide globally competitive telecommunications tariffs;
ix. To tender key MSC infrastructure contracts to leading companies willing to use the MSC as their regional hub; and
x. To provide an effective one-stop agency, *i.e.* MDC.

[157] To be eligible for the second round (an additional five years), a company must forward its application to MDC through its respective Account Manager. Progress and achievement of an MSC-Status Company will first be discussed in the Internal Approval Committee meeting. Decisions made by this Committee will be disclosed to the company upon the approval from the Ministry of Finance and the Ministry of International Trade and Industry. *Available at* <http://www.mdc.com.my/mdc/cs/gc/financial/asp> last visited May 2002.

[158] 100 % deduction of qualifying capital expenditure against the taxable statutory income. This incentive is only for investments made in the first five years of the company's operation. The qualifying capital expenditure is hardware and software, purchasing and/or renovation of building or office, expenditure for greenery in Cyberjaya, and plant and machinery.
Available at <http://www.mdc.com.my/mdc/cs/gc/financial/asp> last visited May 2002.

iii. Eligibility for research and development grants (this incentive is only eligible for the Malaysian owned MSC-Status companies);[159] and

iv. Freedom to source capital and borrow funds globally.[160]

The non-financial perks enjoyed by the MSC-Status companies are: -

i. Duty-free importation of multimedia equipment;[161]

ii. Intellectual property protection and framework of cyberlaws irrespective of its location;[162]

iii. No censorship of the Internet;[163]

iv. MDC, which is an implementation agency, will act as a one-stop agency;[164]

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[159] The grant is administered by MDC and awarded to qualifying MSC-Status companies that choose to develop innovative multimedia technologies and applications that will contribute to the overall development of the MSC. *Available at* <http://www.mdc.com.my/mdc/cs/gc/financial/asp> last visited May 2002.

[160] An MSC-Status company is given general exemptions by the Controller of Foreign Exchange (Governor of BNM) from the exchange control requirements. With these exemptions, a company is free to execute transactions in any currency in Malaysia or elsewhere in the world, borrow any amount from financial institutions, associate companies or non-residents, hedge its foreign-exchange exposure, remit globally for any purposes, and open foreign currency accounts in Malaysia or abroad with no limit on the balance, including accounts for the retention of export proceeds. With these exemptions, an MSC-Status company can engage in transactions without having prior approval from BNM. However, during the transaction process, the company still has to follow whatever procedures currently in practice by the financial institutions. *Available at* <http://www.mdc.com.my/mdc/cs/gc/financial/asp> last visited May 2002.

[161] Companies granted MSC-Status are allowed to import multimedia equipment duty free, provided that the company in operating its business uses the equipment.
Available at <http://www.mdc.com.my/mdc/cs/gc/nonfinancial/asp> last visited May 2002.

[162] Commitment has been given by the government to providing a regulatory framework of cyberlaws and intellectual property laws to facilitate and assist the development of ICT and Multimedia environment.
Available at <http://www.mdc.com.my/mdc/cs/gc/nonfinancial/asp> last visited May 2002.

[163] This commitment is under the Bill of Guarantees, and is made to ensure growth in the content industry. However, while the contents of the Internet are not subject to censorship by the government, this does not mean that any activity under any existing law could be undertaken with impunity. Laws regarding the dissemination of obscene material, defamatory material, copyright material, seditious material and other contents shall continue to apply. *Available at* <http://www.mdc.com.my/mdc/cs/gc/nonfinancial/asp> last visited May 2002.

[164] The MDC will serve as the main point of contact and reference with regards to all matters pertaining to MSC. *See* section V under B - 3.

Further non-financial advantages will be enjoyed if the MSC-Status companies are located within the MSC area. The benefits are as follows: -

i. Physical and IT infrastructure;

ii. Globally competitive telecommunication tariffs and services guaranteed;[165]

iii. Location of the company will be in a quality, planned urban development area;

iv. Research and development facilities, including the Multimedia University will be provided; and

v. The company will be located in a green environment protected by strict zoning.

6. Cyberlaws

In order to gain the world's confidence in the MSC, the Government of Malaysia has taken the initiatives to legislate for the development of ICT. These laws, which are also known as cyberlaws, are to form the legal framework for various flagship applications and to ensure the successful implementation of the applications. This could also be seen as an initiative to build up a suitable legal environment for the purpose of ICT where emphasis is not only based on technological obligation, but also legal requirement.

Cyberlaws that have been tabled in Parliament since 1997 are the Digital Signature Act 1997 (DSA), Computer Crime Act 1997 (CCA), Telemedicine Act 1997, Amendments to the Copyright Act 1987 and the CMA.

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[165] Tariffs in the MSC are reviewed and benchmarked against the best in the region every six months. *Available at* <http://www.mdc.com.my/mdc/cs/gc/nonfinancial/asp> last visited May 2002.

(a) Digital Signature Act 1997 (DSA)

With the establishment of the MSC, the DSA[166] was enforced on 1 October 1998 to promote and encourage the use of digital signatures on computer-based documents and to facilitate electronic commerce in the country. A digital signature is a digital identification that replaces a hand-written signature appended on a paper document. It can be summarised that there are three requirements of a digital signature: -[167]

i. To ensure that a message has come from its purported sender, *i.e.* the proof of origin or data origin authentication;
ii. To enable a recipient to verify that a message has not been altered intentionally or accidentally, *i.e.* message integrity; and
iii. To prevent the sender of the message from denying sending it, *i.e.* non-repudiation.

This Act also introduces and implements the usage of Digital Certificates for Internet based commercial transactions. The DSA implements an infrastructure in which computer users utilise the Certification Authorities,[168] on-line databases called

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[166] The Malaysian DSA is based on the Utah Digital Signature Act Utah Code Annotated Titled 46, Chapter 3 (1996). The wholesale adoption of the Act can be justified on the grounds that since the legal framework is to regulate new technology, and because the hardware and the software will be more or less similar, the law has to be in all respects the same. *See* Annamalai N 'Cyberlaws of Malaysia - The Multimedia Super Corridor' 12 *Journal of International Banking Law* 473 (1997).

[167] DSA section 2(1) states that 'digital signature' means a transformation of a message using an asymmetric cryptosystem such that a person having the initial message and the signer's public key can accurately determine: -
(a) Whether the transformation was created using the private key that corresponds to the signer's public key; and
(b) Whether the message has been altered since the transformation was made.

[168] DSA section 2 (1) defined 'certification authority' as a person who issues a certificate. 'Certificate' under the same section means a computer-based record which: -
(a) Identifies the certificate authority issuing it;
(b) Names and identifies its subscriber;
(c) Contains the subscriber's public key; and
(d) Is digitally signed by the certification authority issuing it.

repositories,[169] and public key encryption[170] technology in order to 'sign' electronic documents in a legally binding fashion. In addition to setting up the regulatory regime designed to implement this structure, this Act also grants legal validity to digital signatures and addresses a number of issues on the status of digitally signed electronic documents in so far as the law of contract and evidence are concerned.[171] In the event that a new payment technology uses the digital signature as a security feature for its system, the system operator has to comply with the DSA.

The MCMC took over the role of the Controller of Certification Authorities[172] on 1 November 2001 and is now empowered to exercise, discharge and perform the duties, powers and functions conferred on it under the same Act that primarily provides for the licensing and regulation of Certification Authorities.[173]

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[169] DSA section 2 (1) defined 'Repository' as a system for storing and retrieving certificates and other information relevant to digital signatures.

[170] DSA section 2 (1) defined 'Private key' as the key of a key pair used to create a digital signature.

[171] DSA section 62 seeks to provide that a digital signature created in accordance with the requirement of the law with respect to signatures and that notwithstanding any written law to the contrary, a document signed with a digital signature shall be legally binding as a document signed with handwritten signature, an affixed thumb print or any other mark. However, the Act does not preclude any symbol from being valid as a signature under any other applicable law. *See* DSA Explanatory Statement paragraph 6.

[172] The Controller of the Certification Authority who was empowered to license and regulate Certification Authorities was appointed on 1 October 1998 before being taken over by the MCMC. *Available at* 'Digital Signature Act 1997' <http://www.msc.com.my> last visited May 2002.

[173] *Ibid.*

(b) Computer Crime Act 1997 (CCA)

This Act only came into effect on 1 June 2000, three years after it was tabled in Parliament.[174] The CCA defines 'computer'[175] in a very wide manner and provides scope for including new devices, which may be in the form of calculators or automated typewriters. This legislation penalises various activities relating to the misuse of computers. It deals with two categories of offences. The first relates to unauthorised access to computer material, which includes access of authority.[176] The second relates to unauthorised modification of the contents of any computer.[177]

(c) Telemedicine Act 1997

Even though this legislation has been enacted in Parliament since 1997, it is yet to be enforced. The intention of this brief legislation is to provide a framework enabling licensed medical practitioners to provide medical services using audio, visual and data communications.[178] Both the Malaysian registered medical practitioner holding a valid practicing certificate and a medical practitioner who is registered or licensed outside Malaysia who holds a certificate to practice telemedicine issued by the Malaysian Medical Council can practise Telemedicine under this Act.

(d) Amendments to the Copyright Act 1987

Technological development, especially IT, has challenged traditional concepts of copyright protection. The establishment of MSC will generate both challenges and

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[174] The Act is based on the United Kingdom Computer Misuse Act 1990 and the Singapore Computer Misuse Act 1993. *See* 12 *Journal of International Banking Law* 473 (1997) 473 (n 166).

[175] *See* CCA section 2 on definition.

[176] CCA section 3.

[177] CCA section 5.

[178] Telemedicine Act 1997 section 2 provides for the term 'telemedicine' to mean the practice of medicine using audio, visual and data communications.

opportunities for Malaysia and its success will, to a certain extent, be determined by the contents that move through it.[179] These include educational works, entertainment products and information known now as the multimedia products that are protected under the copyright law.[180] Therefore, it is essential that adequate legal protection is made available to these works. The Amendment Act, which amended the Copyright Act 1987, came into force on 1 April 1999.

The Amendment Act makes unauthorised transmission of copyright works over the Internet an infringement of copyright. It is also an infringement of copyright to circumvent any effective technological measures aimed at restricting access to works. These provisions are intended to ensure adequate protection of intellectual property rights for companies investing in IT and multimedia environment.

(e) Communications And Multimedia Act 1998 (CMA)

The Communication and Multimedia Act 1998 (CMA) came into force on 1 April 1999, superseding its predecessor the Telecommunications Act 1950 and the Broadcasting Act 1988.[181] This legislation is designed both to improve the efficiency of the existing telecommunications industry, and to facilitate development of IT and multimedia services in Malaysia.[182] It also makes specific provisions for interactive

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[179] Copyright (Amendment) Act 1997 Explanatory Statement paragraph 2.

[180] *Ibid.*

[181] *See* 'Communications and Multimedia Act 1998.' *Available at* <http://www.ktkm.gov.my> last visited May 2002.

[182] *See* Dr. Mohamed SH from Communications and Multimedia Commission 'Communications and Multimedia Act 1998' during the Seminar on 'Communication and Multimedia Act 1998' conducted by Ministry of Energy, Communications and Multimedia on 22 - 23 February 1999 in Kuala Lumpur Malaysia.

online services in converging environments.[183] The objectives[184] of this Act are as follows: -

i. To establish Malaysia as a major global centre and hub for communications and multimedia information and content services;
ii. To promote a civil society where information-based services will provide the basis for continuing enhancement to the quality of work and life;
iii. To grow and nurture local information resources and cultural representation that facilitate the national identity and global diversity;
iv. To regulate for long-term benefits to the end user;
v. To promote a high level of customer confidence in service delivery from the industry;
vi. To ensure an equitable provision of affordable services over ubiquitous national infrastructure;
vii. To create a robust applications environment for the end users;
viii. To facilitate the efficient allocation of resources such as skilled labour, capital, knowledge and national assets;
ix. To promote the development of capabilities and skills within Malaysia's convergence industries; and
x. To ensure information security and network reliability and integrity.

The objectives form the basis for the implementation of a regulatory framework for economic regulation, technical regulation, consumer protection and social regulation.[185]

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[183] Converging environments in this context means a convergence that suggests that two currently distinct technologies (for example television and computers, or telephones and computers, or television and the Web) are about to merge into a single product. *See The New Penguin Dictionary of Computing* (n 22) 105.

[184] *See* Seminar on 'Communications and Multimedia Act 1998' (n 182).

[185] *Ibid.*

VI Legal and Regulatory Framework in Developing ICT in Malaysia

There is a tendency in East Asian countries to prefer informal relationship-frameworks and *ad hoc* problem solving to universal principles and public-decision making based on contractual and other legal frameworks.[186] Malaysia is no exception, preferring 'top-down' rule-making and policy-oriented (*i.e.*, discretion-based) legislation.[187] The legal development in the area of ICT, as well as electronic money, follows the notion that the state is better equipped to allocate economic resources.[188] When the state controls were extensive, the legal framework and resource allocation played only a marginal role for economic transactions and by inference for economic development.[189] The 'procedural dimension' in this area is based on ministries having discretionary power for legal and administrative matters.[190] Along the procedural dimension, the same overlay of discretionary law that augmented the state's allocative powers also displaced the transplanted formal legal processes for making, administering and enforcing the law.[191]

Emerging economies have been active in developing ICT technology and its regulation following the aforementioned model. In tandem, governments of emerging economies are seeking to balance between encouraging the private sector to develop ICT, and protecting the public interest. In turn, the private sector must take into account the interest of the public as well as financial gain. For example, security and stability issues cannot be compromised. Advances in communications technology enable the

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[186] *See* Kahler M 'Institution-building in the Pacific' in Mack A and Ravenhill J (eds) *Pacific Cooperation: Building Economic and Security Regimes in the Asia-Pacific Region* (Allen & Unwin 1994) 18.

[187] *Inter alia* Pistor K and Wellons PA (eds) *The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (Oxford University Press New York 1998) 8.

[188] *Ibid* 5.

[189] *Ibid.*

[190] *Ibid* 4.

[191] *Ibid* 6.

transmission of information to be instantaneous to any place on the globe.[192] Adjustments to ICT management and market practices have to be made. When it is possible to manipulate and transform information from their original state, which has an impact on the originality and proprietary,[193] it is important to consider issues regarding the confidence of the public. In developing new areas such as ICT, the challenge is not only to keep up with new and rapid changes in technology, but also to gain and maintain the confidence of the public. The governments of emerging economies have been enthusiastic in introducing ICT in the hope of achieving commercial success while safeguarding the public interest.

To avoid undermining public confidence, regulators in emerging economies should have some control over the product development to ensure that security is intact.[194] However, since rigid regulatory framework can stifle innovation,[195] any laws introduced by emerging economies for the purpose of regulating the industries have to be attractive both to the industries and the public. The success of ICT development is based on the technology provided by the private industries and the public's acceptance of the products. There must be synergy between both the government and the private sectors. Only with the right collaboration and partnership will opportunities brought by ICT bring success to emerging economies. Without doubt, this is a great challenge for the

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[192] *See Internet and E-Commerce Law, With the Focus on Asia Pacific* (n 33) 10.

[193] *Ibid.*

[194] *Ibid.* The author discussed the danger of new media information and virtual spaces and facilities such as the libraries, archives, databases and court files. The danger includes power interruptions, hacking and malicious destruction and corruption by inadvertent users or through poor maintenance.

[195] For example, the objectives of Malaysia in enacting the CMA are as follows: -

i. To ensure transparency and clarity;
ii. To promote competition and less regulation;
iii. To ensure flexibility;
iv. To avoid biasness towards generic rules;
v. To promote regulatory forbearance;
vi. To emphasis on process rather than content;
vii. To promote administrative and sector transparency; and
viii. To promote industry self-regulation.

See 'The Law'. *Available at* <http://www.mcmc.gov.my/mcmc/the_legislation.asp> last visited May 2002.

government in emerging economies to undertake as they also try and navigate the development of ICT.

Numerous initiatives have been taken for the purpose of developing ICT. One of the areas that have received attention by emerging economies is the development of electronic commerce. By encouraging the use of electronic commerce in all sectors of economy, it is believed that new 'webs of local and global connections' can be created.[196] This has the potential to unleash new opportunities to overcome the digital divide.[197]

There are various regional initiatives in promoting electronic commerce in the region. The Asian-Pacific Economic Cooperation[198] (APEC) Electronic Commerce Task Force was established during the First Senior Officials meeting held in Malaysia in 1998.[199] The work plan of the task force is to build on and complement the work being undertaken in a number of established APEC bodies, such as the Telecommunications Working Group, Transportation Working Group, the Industrial Science and Technology Working Group and the Committee on Trade and Investment and its Sub-Committee on Customs Procedures.[200] These programs and regional cooperation may alter the rules of

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[196] *See* 'Banking and ICT Developments: Legal Issues' (n 52).

[197] *Ibid.*
It has been argued that in the widest context, the digital divide is referred to as the 'inequality of access to the internet'. The emphasis on the issue of access to the global network is made because the Internet represents a momentous shaping force of all aspects of modern society, from education to politics. The possibility of empowering people by providing them with access to the Internet is seen as a positive step that must be encouraged. This assumption that the Internet is an excellent feature for society as a whole carries the inevitable consequence that those who lack access will be at a disadvantage. This is based on the idea that information has become the commodity of the future, and those without access to it will be relegated to poverty. *See* Gonzalez AG 'The Digital Divide: It's the Content, Stupid: Part 1' 11(3) *Computer and Telecommunications Law Review* 73-77 (2005).

[198] Member States of APEC are Australia, Brunei, Canada, Chile, People's Republic of China (including Hong Kong), Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei, Thailand, United States of America and Vietnam.
Available at <http://www.apecsec.org.sg> last visited July 2002.

[199] *Available at* 'E-Commerce Task Force' <http://www.apecsec.org.sg> last visited July 2002.

[200] *Ibid.*

international trade and how the legal and regulatory framework caters for new and innovative environments.[201]

Further development also took place in Electronic Association of South East Asian Nations (known as e-ASEAN)[202] framework agreement that came into force during the ASEAN[203] Informal Summit held in Singapore in 2000. The objectives of the framework were: -[204]

i. To promote cooperation to develop, strengthen and enhance the competitiveness of ICT sector in ASEAN;
ii. To promote cooperation to reduce the digital divide within individual ASEAN Member State and amongst ASEAN Member States;
iii. To promote cooperation between the public and private sectors in realising e-ASEAN; and
iv. To promote the liberalisation of trade in ICT products, ICT services and investments to support the e-ASEAN initiative.

Actions such as the above are stated to accelerate the adoption of new technologies and encourage a more regionally uniform code of conduct.[205] However, it is important that progress in the legal and regulatory framework on ICT be driven by market needs and national priorities rather than by technology alone. In policy development, there is a need to seek active participation by different user groups to

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[201] *Ibid.*

[202] *Available at* 'e-ASIAN Framework' <http://www.apecsec.org.sg> last visited July 2002.

[203] Association of South East Asian Nations or ASEAN has ten member states, consisting of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. *Available at* <http://www.aseansec.org/menu_about_member.htm> last visited July 2002.

[204] All four objectives are stated in Article 2 of the e-ASEAN Framework Agreement. *Available at* <http://www.aseansec.org> last visited July 2002.

[205] *Ibid.*

incorporate their specific requirements and circumstances in the national information network.

In developing the regulatory infrastructure, emerging economies have been quick to recognise the need to modernise the legal infrastructure. This has been achieved by the enactment of new laws on ICT. However, these laws should be enforced in compliance with international standards. Comparison should be made with other countries with an established legal framework.[206]

A. Assessment of New Laws on ICT in Malaysia

The enactment of Malaysian cyberlaws reflects the commitment of the government to ensuring that the ICT is supported by a legal foundation. A legal framework is recognised as essential to gain the confidence from local and international investors on Malaysia's effort in developing ICT.[207] However, some of the initiatives taken in developing the regulatory framework through cyberlaws have been carried in a piecemeal fashion. Various issues related to the implementation of cyberlaws remain unresolved, which may hamper the development of ICT.[208]

Malaysia has been quick in enacting legislation to accommodate the development of ICT. Various cyberlaws were passed in Parliament at a very early stage[209] of its

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[206] However it should be noted that experience of other countries should be taken in context. Simply applying another country's framework, without adjustment being made to suit the county's geography, infrastructure, banking, legal structure, culture and needs could lead to a sub-optional solution. *See* Listfield, Robert and Fernando Montes-Negret 'Modernizing Payment Systems in Emerging Economies' The World Bank 2001.

[207] The enactment of cyberlaws have three focal points: -

i. protecting the rights of the citizens;
ii. protecting the interest of businesses; and
iii. protecting the integrity and soundness of flagship applications.

See Multimedia Super Corridor (n 100) 40.

[208] *Ibid.* The former Prime Minister acknowledged that cyberlaws are not perfect and amendments has to be made as more is understood on the usage of multimedia and as new technology posses new problems.

[209] Most of the cyberlaws were enacted in 1997. *See* section V under B - 6.

initiatives; in fact, at the time MSC was implemented. However, the implementation, which requires a Gazette Order, and is influenced by the strong discretionary power of the Minister in charge, has created uncertainty to its enforcement.

The provisions in all the cyberlaws allow flexibility as to when the laws should be enforced and all cyberlaws have taken considerable time until their application due to the complex nature of the industry they are regulating.[210] The CMA was enacted in 1998, and enforced on 1 April 1999. The DSA, which was enacted in 1997, was enforced in the following year in October 1998. The Copyright Act (Amendment) 1997 was enforced two years after its enactment in April 1999, while the CCA took even longer when it was enforced in 2000, three years after being enacted in Parliament. The Telemedicine Act, which was enacted in 1997, as of this date, is yet to be enforced.

It could be argued that by developing the flagship applications under the MSC project, the Government of Malaysia was trying to demonstrate its seriousness of developing a regulatory framework for ICT. Legislation was necessary to ensure that a legal foundation for the MSC existed to gain the confidence of the public and also the industries, locally and internationally. However, the uncertainty may have seriously undermined such positive considerations.

Although a set of cyberlaws have been enacted in Malaysia, there is no guarantee that these laws will remain relevant. To avoid outdated and unworkable laws, the responsible authority must be conversant with the issues and be equipped to offer recommendations for solutions, legislative or otherwise, in order to create the right environment.[211]

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[210] All the cyberlaws have this flexibility.

[211] *See* Allott P 'The True Function of Law in the International Community' 5 *Industrial Journal Global Law Studies* 396 (1998).

The participation of the private sector is essential and to gain their confidence and commitment, laws must not be seen as stifling innovation. As such, the government must ensure that in implementing the legislation, both interests of the public and industries have been protected.

There are great difficulties in balancing the interest of the public and industries. The decision of the Malaysian Government to adopt a 'trial and error' approach may be valid for a country that seeks to become the leader in ICT. [212] Although regulation of ICT is on 'piecemeal' basis, and may become harmful for development and costly to implement, the risk may be a measured one.

Nevertheless, to 'wait and see' if regulation is appropriate may not be suitable to ICT as it continues to develop at a rapid pace. Even though a country can refer to the experience of another country, the regulatory framework of the country must be customised in accordance with the needs of each country.[213]

B. Overlapping Functions of the Malaysian Government Authorities in Relation to ICT

Coordination among government authorities is crucial in gaining the confidence from both the public and private sectors. The regulatory structure must be transparent so that those regulated will not regard it as burdensome and detrimental to their investment or interest. Lack of coordination among the government authorities reflects uncertainties on behalf of the government in implementing the regulatory framework.

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[212] However, on issues related to Malaysia's decision to base its DSA on the Utah Digital Signature Act arises the question as to whether Asia countries are destined to be mere followers of policy and regulation, and merely rubber-stamping similar initiatives taken in the West as opposed to actively dictating the development of ICT. However, the author also noted that such caution is not necessarily a bad thing as it enables a country to critically assess similar initiatives undertaken by other countries in the past and implement a model that suits its specific needs and aspirations. *See* Anil S 'The Regulation of Electronic Commerce in Asia: An Exploration' 3(6) *Journal of International Financial Market* 3(6) 220-231 (2001).

[213] *See* 'Modernizing Payment Systems in Emerging Economies' (n 206).

The establishment of MECM raises coordination problems. This Ministry is responsible for the development of ICT and cyberlaws[214] and its power extends to all industries involved in developing ICT products.[215] As existing legislation is not within the purview of MECM, issues of coordination of functions arise.

For example, BNM had the power to invoke its banking legislation *i.e.* the Banking and Financial Institutions Act 1989 (BAFIA) to electronic money.[216] When cyberlaws were enacted,[217] these repealed provisions under BAFIA created an overlap of functions between BNM and another ministry, *i.e.* the MECM, with its powers under the cyberlaw.[218] Before the enactment of the Payment Systems Act 2003 (PSA),[219] through BAFIA, BNM had the power to regulate stored-value card, electronic money schemes, as funds would be transferred electronically.[220] Operators of the payment systems of electronic money schemes might have had to comply with the licensing requirement under the CMA, if MECM decided to apply it.[221]

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[214] The powers of the Ministry are wide under DSA and CMA.

[215] CMA Explanatory Statement paragraph 7 states that the 'key participants in the industry who are regulated under the Act include the network facilities providers, the network services providers, the applications service providers and the content applications service providers.'

[216] Provisions under BAFIA related to electronic money have now been repealed with the enactment of the Payment Systems Act 2003 (PSA). All provisions related to electronic funds transfer, which are relevant to electronic money issues, have been deleted. *See* Banking and Financial Institutions (Amendment) Act 2003 sections 2, 7 and 8.

[217] The example in this scenario is based on a situation in 1999 when one of the cyberlaws, the CMA, was enforced. During this period, the wide provisions of BAFIA section 119 that was then enforceable, on regulating electronic fund transfers can be invoked to provide powers for BNM to also regulate electronic money scheme provided by any person in Malaysia. *See* Chapter 4 section III under B - 1 for further discussion on BAFIA repealed section 119.

[218] However, it should be noted that none of the provisions under the CMA for the purpose of regulating electronic money schemes in Malaysia were invoked during the time when provisions under BAFIA were still enforceable.

[219] *See* Chapter 4 section III under B - 2 on Payment Systems Act 2003 (PSA).

[220] BAFIA section 119 (now repealed) provides powers to BNM to regulate electronic fund transfers system. *See* Chapter 4 section III under B - 1 for further discussion on BAFIA repealed section 119.

[221] MECM also has wide powers under the CMA section 126 (1) where the operator of stored-value card scheme may be subjected to licensing requirement under this section. CMA section 126 (1) provides: -

In the event that CMA applies to the operators, there will be an overlap of functions between MECM and BNM. MECM has the power under CMA to investigate activities of the licensee.[222] Similarly, BNM also has the power to inspect premises, equipment, machineries and documents[223] of the authorised operator of the electronic money scheme from time to time. Both legislation also give general powers to enter and investigate a suspected offence.[224] Before BAFIA was repealed, a contravention in either

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Subject to such exemption as may be determined by the Minister by order published in the Gazette, no person shall -
(a) own or provide any network facilities;
(b) provide any network services; or
(c) provide any applications services,
except under and in accordance with the terms and conditions of -
(aa) a valid individual licence granted under this Act; or
(bb) a class licence granted under this Act,
expressly authorising the ownership or provision of the facilities or services.

Justification as to why the CMA may be invoked to regulate electronic money schemes will be further discussed in Chapter 4 section IV under B.

[222] CMA section 246 (1) and (2) provides: -

> (1) The Commission may investigate the activities of a licensee or other person material to his compliance with this Act or its subsidiary legislation.
>
> (2) In any case relating to the commission of an offence under this Act or its subsidiary legislation, any authorised officer carrying out an investigation may exercise all or any of the special powers in relation to police investigation in cases given by the Criminal Procedure Code.

[223] BAFIA repealed section 119 (5) provides: -

> While an authorisation under subsection (3) is in force, the Bank may, from time to time, inspect the premises, equipment, machineries, books or other documents, accounts or transactions relating to the system.

BAFIA repealed section 119 (3) provides: -

> The Bank may approve or reject a scheme submitted under subsection (1) and the rules, contract, bye-laws or other documents relating thereto and submitted therewith, or may approve the same subject to such modifications and alterations to the scheme, or to any or all of the documents as aforesaid submitted therewith, as it may deem necessary, desirable or expedient, and may in giving any authorisation under this section, impose such restrictions, limitations, or conditions as it may deem fit.

[224] CMA Chapter 3 and BAFIA Part IX provides for these powers.

or both legislation would have led to two different sanctions under CMA[225] and BAFIA.[226]

VII Concluding Remarks

Considering the rapid changes and evolvement of technology, creating a regulatory framework for ICT is complex. There are no ready solutions any country can apply, including concerning the coordination of functions among relevant authorities. Moreover, the solution of one country cannot be transplanted into another country.

The problems of establishing a regulatory framework for ICT in emerging economies, such as Malaysia, are not due to lack of initiatives and research. It is the nature of ICT that makes it difficult to predict the issues that may arise. This is a rapidly changing discipline and the law is struggling to cope with the development. The initial step would be to have good coordination among the relevant authorities. By clearly defining the roles and functions of the relevant authorities, a strong regulatory foundation would be established.

The rapid development in technology demands that legal and regulatory developments are in step with the new technology as much as possible.[227] The first step is for the legislators and regulatory authorities to be vigilant and appropriately responsive to the demands of technology and the industry. The experience of countries[228] indicates that

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[225] CMA section 126 (2). Contravention leads to maximum MYR 500,000 fine or maximum five years imprisonment or both. There is also a MYR 1000 fine for every day or part of the day during which the offence is continued after conviction.

[226] Currently, a contravention would lead to sanctions by CMA and PSA.
Previously, under BAFIA 4th Schedule Serial No 134 – 139 (now repealed), contravention leads to maximum of MYR 5 million fine or maximum of five years imprisonment or both. There is also a daily fine not exceeding MYR 5000 for every day on which the offence is continued.

[227] *See* 12 *Journal of International Banking Law* 473 (1997) 481 (n 166).

[228] For example, countries that try to develop electronic commerce continue to have problems on issues related to formation and proof of contracts even though there is much proposed literature on how the current law is or might be developing and how contracting parties should resolve likely problems that are

obstacles to becoming an active adopter of ICT can be attributed to problems in learning processes, social and cultural barriers, market imperfections, policy-related or institutional limitations.[229]

The learning process of parties involved, such as the operator of a new payment system or the consumers that use the system will not be the same. This would lead to social and cultural barriers because not all sectors and individuals will be on par in terms of knowledge of the new technology. Information asymmetry will then lead to market imperfections. The uneven learning process among different parties may be a greater impediment to its mass adaptation.[230]

The policy on ICT development should also set priorities of development, promote training, improve access and develop ICT infrastructure. The various facets of ICT development involve multiple regulatory authorities and cooperation among them is imperative for nation-wide proliferation.[231]

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precipitated by the onset of electronic commerce. *See Internet and E-Commerce Law With the Focus on Asia Pacific* (n 33) 254.

[229] *Ibid* 5-13.

[230] It is argued that the acceptance of consumers and service providers varies depending on countries and regions. Developed countries may already have considerable IT infrastructure, which may hinder instead of promote new technologies. An example is the continuous reliance on cheques payment system in the United States. One of the reasons is that cheques collection system can be operated for only the tiny marginal cost of processing cheques, which makes the switching cost for the United States consumers, business and banks for adopting any wholly new payment technology enormous by comparison. *See* 34 *The International Lawyer* 137 (2000) (n 45).

[231] As discussed in section VI under B in relation to Malaysia.

CHAPTER 2

ASSESSING THE REGULATORY ISSUES OF ELECTRONIC RETAIL PAYMENT SYSTEMS

I Introduction

Chapter 1 discussed the initiatives taken by some emerging economies in developing the Information and Communications Technology (ICT). Emerging economies have recognised the importance of payment systems in developing ICT as it can contribute to economic growth[1] and financial stability.[2] There is a need for payment systems[3] to be enhanced and modernised in line with the developments in ICT. Not only must the emerging economies be responsive to technological advances, but they must also be aware of the regulatory approaches that will affect the development of the payment systems. This chapter analyses the development and regulation of the electronic retail payment system[4] in emerging economies, such as Malaysia,[5] Singapore and Hong Kong.

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[1] *See* Humphrey D 'Payment Systems Principles, Practice and Improvements' The World Bank Technical Paper No. 260 1995.

[2] Most central banks recognise the importance of payment systems in promoting financial stability and include it in their objectives. Leading central banks such as the Bank of England (BOE) have two core principles, *i.e.* monetary and financial stability. The BOE oversight of payment systems is one of the key elements in the bank's responsibility for stability of the financial system as a whole. *See* 'Bank of England Core Purpose' <http://www.bankofengland.co.uk/about/corepurpose/index.htm> and Memorandum of Understanding between Treasury, The Bank of England and the Financial Services Authority under Article 2 (i) and (ii) on 'The Bank's Responsibility' <http://www.bankofengland.co.uk> last visited July 2005. Emerging economies like Malaysia has followed suit and amended the Central Bank of Malaysia Act 1958 (CBA) to include the efficiency and smooth operation of national payment and settlement systems as part of Bank Negara Malaysia's (BNM) objective. *See* Central Bank of Malaysia (Amendment) Act 2003 section 3 (c).

[3] The developments of payment systems in emerging economies are both on wholesale and retail payment systems. However, this thesis will only focus on retail payment systems.

[4] It can be argued that the development of a retail payment system in line with ICT is more crucial as it directly involves the public as opposed to wholesale payment system.

[5] Malaysia has specifically enhanced the development of its electronic retail payment system in line with ICT. For example, the National Multipurpose Card is one of the Multimedia Super Corridor's (MSC) flagship applications. The applications include the development of retail payment instruments such as electronic money, debit and credit card. *See* Chapter 1 section V under B - 1 and 2. Under Hong Kong's 2001 Digital 21, one of its key result areas is to develop smart card technology for the purpose of gaining a leadership position globally. *See* Chapter 1 section IV under B - 5.

II What is a Payment System?

At its most basic level, a payment system is merely an agreed-upon way to transfer value between buyers and sellers in a transaction.[6] When coupled with rules and procedures, a payment system provides an infrastructure for transferring money from one entity in the economy to another. The goal of an efficient payment system is to allow instant confirmation of a transaction and to allow the buyer and the seller to directly exchange the necessary information. It gives value for consummating a transaction without a third party confirmation, and does so within a secure environment.[7]

A payment system is notable by what 'things' are used as money to transfer value in an economic exchange of goods or services.[8] As the economy develops, these 'things' range from using commodities for money, to using currency,[9] to using cheques[10] and finally to using electronic means to transfer value.[11] In countries with modern payment systems, including emerging economies, such as Malaysia, Singapore and Hong Kong, currency, cheques and electronic methods of payment are used simultaneously. In countries with less developed payment systems, commodities, including precious metals and currency are dominant.[12]

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[6] *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

[7] *See* Sifers RW 'Regulating Electronic Money in Small-Value Payment Systems: Telecommunication Law as Regulatory Model' Indiana University School of Law – Bloomington and Federal Communications Bar Association 1997. *Available at* <http://www.taxi-1.org/emoney> last visited August 2001.

[8] *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

[9] Currency is notes and coins mostly issued by the central bank of a particular country. The current system is one of *fiat* money, which is inconvertible into gold or other precious metals. This paper money is declared as legal tender by the government for the settlement of debt. *See* Lastra RM *Central Banking and Banking Regulation* (Financial Market Group United Kingdom 1996) 250.

[10] Cheques or payment orders are processed manually or contain machine-readable characters for computer processing. It provides facility for the payer's bank to transfer funds to the payee's bank, in accordance with the order specifically made by the payer. *See* Listfield, Robert and Fernando Montes-Negret 'Modernizing Payment Systems in Emerging Economies' The World Bank 2001.

[11] *Ibid.* Electronic payments are instructions passed between banks without reliance on paper processing. This also includes card payments such as Automated Teller Machine (ATM), credit and debit cards.

[12] *Ibid.*

In an advanced payment system, various procedures, rules, standards and instruments are used to exchange monetary value between parties to discharge an obligation.[13] With good and clear procedures, rules and standards, the payment instrument will be able to function efficiently and will allow mobilisation of financial resources at lower transaction costs, both of which promote economic growth.[14]

Another feature that is important for a payment system is the function of clearing[15] and settlement.[16] All payment systems involve clearing and settlement functions in allowing finality of the value transferred. The clearing function, which is composed of processing and collection, can be paper-based or electronic. Settlement finality can take place at the time of transaction or at a delayed period. Payments can carry immediate settlement when the funding can be validated before the transaction.[17] Settlement at a delayed period usually occurs when some time is required to ensure the availability of funds.[18]

An efficient and strong financial sector is one of the key requirements for a safe and sound financial system[19] and payment systems are one of the crucial factors that

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[13] *Ibid.*

[14] *Ibid.*

[15] Clearing or clearance is the process of transmitting, reconciling and in some cases, confirming payment orders or security transfer instructions prior to settlement, possibly including the netting of instruction and the establishment of final positions for settlement. *See* Committee on Payment and Settlement Systems Secretariat 'A Glossary of Terms Used in Payments and Settlement Systems' Bank for International Settlements 2000.

[16] *Ibid.* Settlement is an act of discharging obligations in respect of funds or securities transfer between two or more parties.

[17] Credit transaction such as direct deposit transaction is an example of immediate payments settlement. This is where the payment instrument flows from the paying corporation to the paying bank to the payee's bank and to the payee. The flow of funds follows the same path. *See* 'Modernizing Payment Systems in Emerging Economies' (n 10).

[18] *Ibid.* Debit transaction such as payment by cheques is an example of settlement at a delayed period. Cheques flow through the banking system from the payee to the payee's bank to the payer. The flow of funds moves in the opposite direction from the transaction.

[19] *See* Sayo S and Humphrey D 'Transforming Payment Systems – Meeting the Needs of Emerging Market Economies' The World Bank Discussion Papers 1995.

determine this. Until recently, the issue of payment system development has often been of secondary importance to financial sector reform. This is due to the view that a payment system is only a mechanical process and nothing more than an automation of commercial banks' back-office function.[20] However, a different approach is now being taken as it becomes clear that payment systems have operated on technological development in the last 20 years, which creates risks capable of affecting the global economy.[21] It is also recognised that payment systems are an important element of financial stability for all countries and the failure of the payment systems may affect the financial and economic stability.[22]

The World Bank holds the view that payment systems play an important role in the process of developing a sound financial market.[23] It acknowledges that market economies rely on payment systems to facilitate trade and exchange among enterprises and between enterprises and consumers in product markets.[24] At the same time, the payment system is also used to transform domestic and international savings flowing into productive investments through financial markets.[25]

The Bank for International Settlements (BIS) hosts the Committee on Payment and Settlement Systems (CPSS) and has carried out much work on retail payment systems.[26] While development of new technology affects the retail payment systems and

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[20] *Ibid.*

[21] *See* Garcia SG 'The Contribution of Payment Systems to Financial Stability'. *Available at* Committee on Payment and Settlement Systems Secretariat 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' Bank for International Settlements 2000.

[22] *Ibid. See* also section III under A for issues on risks.

[23] *See* 'Transforming Payment Systems - Meeting the Needs of Emerging Market Economies' (n 19).

[24] *Ibid.*

[25] *Ibid.*

[26] Specific reports on retail payment systems, which include retail payment instruments such as electronic money, have been published. All reports on electronic money are under The Committee on Payment and Settlement Systems (CPSS) Publications section. The latest report by BIS on electronic money was issued

their instruments, the application of modern technology has facilitated innovations in the retail payment instruments and services.[27] CPSS acknowledges that with the new technology, not only does it lead to the emergence of new retail payment instruments such as electronic money, but also to the development of new electronic payment delivery and processing such as Internet payment methods.[28]

A payment system is a complex network of instruments, institutions and services that facilitate the transfer of value between parties in a transaction. As in most areas of economic activity, the organisational structure and the operations of the payment systems are shaped by government policies and regulatory environments as well as by market forces.[29] Payment systems enable the financial sector to serve the needs of the real economy. Their improvement is a priority in the transformation of wealth, development of banking systems and emerging money markets.[30]

The development of the payment systems has major implications for the accounting and legal framework, the telecommunications infrastructure, the institutional capacity of the central banks and the commercial banks that are major providers and users of the payment systems, and for monetary instruments and management.[31] The characteristics of the payment systems depend on the payment services that are being offered in a particular country. Currently, electronic payment services are becoming increasingly important factors affecting the strategic competitiveness and future profitability of both the private service providers in the system and business users. This is

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in 2004. *See* Committee on Payment and Settlement Systems 'Survey of Developments in Electronic Money and Internet and Mobile Payments' Bank for International Settlements 2004.

[27] *See* Tresoldi C 'Report on the Activity of the CPSS Working Group on Retail Payment Systems'. *Available at* 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' (n 21).

[28] *Ibid.* Such as Internet credit and debit transfer and also electronic cheques.

[29] *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

[30] *Ibid.*

[31] *Ibid.*

because new payment technologies can offer both lower costs and greater convenience to the consumers who are the end users of these retail payment services.

A. Development of Payment Instruments

Payment systems evolve and differ according to the stage of development of the economy. In a primitive society, transactions involve the direct, physical exchange of goods or barter. The principal drawback of barter as a payment system is that for a transaction to occur there has to be what is called a 'double coincidence of wants'. That is, the 'seller' must want what the 'buyer' is willing to give up and *vice versa* so that both parties are satisfied in a particular transaction.[32] When there is development in the economy, there will be more specialisation of labour.[33] As specialisation progresses, it leads to greater productivity or output per worker raising income and consumption. With increased specialisation, there will be a greater need for trade. In this type of economy each member of the society will not be producing all or even most of what the society needs for everyday consumption.[34]

At this stage, it would be virtually impossible to find a match to fulfil the double coincidence of wants. As a result, barter will be difficult when the economy starts to develop and when specialisation increases in a society. When this occurs, transaction costs will arise and as a result, some form of money typically replaces the barter as the dominant form of exchange.[35]

For anything to be used as money, its value has to be generally acceptable as payment, constitute a safe store of value, and represent a standardised unit of account.[36]

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[32] *Ibid.*

[33] *Ibid.*

[34] *Ibid.*

[35] *Ibid.*

[36] *Ibid.*

Precious metals have in the past, and even today, served this capacity as commodity money. The great benefit derived from money replacing barter is that one no longer has to satisfy the double coincidence of wants for successful trade to take place.[37]

Finally, there is currency, which is money by *fiat* or law of the state.[38] Historically, most countries were once on a gold standard. That was the period of time when the face value of currency was required to be backed 100% by gold of equal value. Thus, at that time money was always redeemable for gold and the money supply itself could only expand if gold reserves expanded. Today, most domestic currencies are not backed by gold, and the stock of currency is predominantly determined by how many notes a nation decides to print. This difference in cost of production and legally enforced face value of the currency[39] is called the benefit of seigniorage.[40]

Another important payment instrument is cheques. This non-cash payment instrument requires the use of one or more banks to complete the transaction. In payment made by cheques, there is a written order from the drawer to the drawee, requiring the bank to pay a specified sum on demand to the drawer or to a third party specified by the drawer. Cheques are used for settling debts and withdrawing money from banks.[41] Non-cash payments, such as cheques, have two transaction flows, unlike payment by cash. If payment is made by cash, the value will be transferred at face value and it will discharge

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[37] *Ibid.*

[38] *See Central Banking and Banking Regulation* (n 9) 250.

[39] In the United States, it only costs USD 26 to print 1,000 pieces of currency regardless of the denomination. *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

[40] Seigniorage is the margin between the nominal value of the notes issued and the cost of their production. In most countries where the central bank has monopoly power over the issue of notes and coins, the central banks can control the seigniorage and the volume of note and coins issued. *See Central Banking and Banking Regulation* (n 9) 250.

[41] *See* 'A Glossary of Terms Used in Payments and Settlement Systems' (n 15).

the obligation of both parties without any further action. Cheques however, have both the movement of the physical instrument[42] and the movement of funds.

Another non-cash payment instrument is electronic fund transfer. It uses networks to transfer very large sums of money each day electronically. Different from barter trade, commodity money and currency or *fiat* money,[43] electronic payment instruments do not represent the good and final funds. In the case of barter, commodity money or currency, there are no clearing and settlement issues as there is no need for payment clearing between banks, or for the central bank to provide for the settlement. This is because the payment itself settles the transaction, unlike when the payment is made via electronic means where the clearing and settlement is needed to finalise the payment. Electronic payment is usually used for high volume, repetitive payments such as payment of wages and for moving large sums, and time sensitive payments. Electronic giro payment[44] and card payments[45] such as Automated Teller Machine (ATM)[46] cards, credit cards[47] and

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[42] However, it is to be noted that with new technology such as imaging of cheques, it is no longer necessary for the collecting bank to physically present the cheque for payment. Instead, the collecting bank will transmit an image of the cheque to the paying bank (the drawee), which will make payment on receipt of this image of the cheque without having to see the actual cheque. Malaysia established the Cheque Imaging System in 1998. 'Sistem Penjelasan Imej Cek Kebangsaan' or SPICK is an imaged-based cheque clearing system operated by BNM. The users of the system are the commercial banks and Islamic banks. It is a combination of the automated cheques clearing system with imaging of inward cheques for the purpose of examination and verification of signatures by the head office and respective regional office of the paying banks. *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2000' at 181.

[43] *See* 'Modernizing Payment Systems in Emerging Economies' (n 10).

[44] GIRO payment is a credit transfer system. A credit transfer system is a funds transfer system through which payment orders move from (the bank of) the originator of the transfer message or payer to (the bank of) the receiver of the message or beneficiary. *See* 'A Glossary of Terms Used in Payments and Settlement Systems' (n 15).

[45] Stored-value card, which has electronic money value, is also considered as an electronic payment instrument. This issue will be dealt separately in Chapter 3 section II under A.

[46] ATM is an electromechanical device that permits authorised users, typically using machine-readable plastic cards, to withdraw cash from their accounts and/or access other services, such as balance enquiries, transfer of funds or acceptance of deposits. ATM may be operated either online with real-time access to an authorisation database or offline. *See* 'A Glossary of Terms Used in Payments and Settlement Systems' (n 15).

[47] *Ibid.* A card indicating that the holder has been granted a line of credit. It enables the holder to make purchases and/or cash up to a pre-arranged ceiling; the credit granted can be settled in full by the end of a

debit cards[48] are also considered as electronic payment instruments. When payments are mostly made by individuals, these electronic payment instruments are known as retail payment instruments.

B. What is A Retail Payment?

Retail payments[49] are consumer payments of relatively low value and urgency. The retail fund transfer system that caters for the retail transactions is a fund system, which handles a large volume of payments, of relatively low value. The system usually handles payment instruments such as cheques, credit transfers, direct debits,[50] ATM transactions, Electronic Fund Transfers at Point of Sale (EFTPOS) transactions[51] and card payments such as credit and debit card. The retail payments encompass a wide variety of counter parties, transactions and payments, which can be classified in terms of the value and characteristics of the transaction. Retail payments usually involve an individual as one counter party and an individual, firm or government agency as the other.[52] The development of retail payments is crucial for the economic development of a country. However, before the issue of development can be discussed, it would be important to know the characteristics of retail payment instruments.

Retail payment is different from large-value payments. Large-value payments are usually made, not between individuals, but mainly between banks or participants in the

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specified period or can be settled in part, with the balance taken as extended credit. Interest is charged on the amount of any extended credit and the holder is sometimes charged an annual fee.

[48] *Ibid.* A card enabling the holder to have his purchase directly charged to funds on his account at deposit-taking institutions.

[49] *Ibid.*

[50] *Ibid.* Debit card means a pre-authorised debit on the payer's bank account initiated by the payee.

[51] *Ibid.* EFTPOS is a term which refers to the use of payment cards at a retail location (point of sale). The payment information is captured either by paper voucher or by electronic terminal, which, in some cases, are designed also to transmit the information. Where this is so, the arrangement may be referred to as 'electronic funds transfer at the point of sale'.

[52] *See* Committee on Payment and Settlement Systems 'Retail Payments in Selected Countries: A Comparative Study' Bank for International Settlements 1999.

financial markets and usually require an urgent and timely settlement.[53] The systems that cater for the large-value payments are also known as wholesale funds transfer systems and the funds are transferred between the participants in the system for their own account or on behalf of their customer.[54]

C. Characteristic of Retail Payment Instruments

There are various kinds of retail payment instruments,[55] each having different characteristics to accommodate different types of counter-party relationships and transactions. Different classes of vendors and customers may prefer different types of payment arrangements and accept or use only particular types of payment instruments. Thus, only some payment instruments can be effective substitutes for others. Retail payments have a higher volume that is in terms of number of transactions, but lower average values than wholesale payments. It is usually not cleared and settled in the same manner,[56] although in some countries retail payments are sometimes settled across systems designed for both retail and wholesale payments.[57]

With the development of ICT, a shift from paper-based retail payment to electronic non-cash payment instruments has taken place. New technology has facilitated innovations in retail payment instruments and services, lowering the cost of supplying payment services or increasing revenue opportunities for service providers. The result has been a movement away from cash, and in most cases, paper-based cheques, towards

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[53] *See* 'A Glossary of Terms Used in Payments and Settlement Systems' (n 15).

[54] *Ibid.*

[55] Such as cheques, credit transfer, direct debit, ATM transaction, EFTPOS transaction and cards payment such as credit and debit cards.

[56] *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

[57] For example, in Malaysia, upon clearing, the cheques settlement of funds between banks is cleared using RENTAS. RENTAS is a real time gross settlement system operated by BNM that processes and settles funds and scripless securities transactions between participating institutions. Participating institutions are BNM, commercial banks, Islamic banks, merchants banks, discount houses, finance companies, universal brokers and Cagamas (the national mortgage corporation). *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2004' at 218.

direct fund transfers[58] and card payments.[59] The new electronic retail payment technology that has emerged signifies the potential for developing alternatives to existing instruments and technology. Some involve entirely new instruments, such as electronic money, others involve new electronic payment delivery and processing technology.[60]

The phenomenal growth of the Internet and subsequent commercial interest in exploiting the technology has resulted in an enormous increase in the transfer of information, which has also affected the financial services industry.[61] With the development of electronic commerce,[62] there is a need to develop a retail payment instrument, which can accommodate payment via the Internet. In developing new payment instruments or enhancing the delivery and processing channels, both have to offer flexibility to the consumers, as well as security for making payment transaction on-line.

The requirement of 'flexibility' is one of the crucial characteristics required for new electronic retail payment. With the development of the Internet, payment is no longer solely for the purpose of buying goods through electronic commerce transactions. Payment now has to cater for consumers who require services such as viewing websites or answering questionnaires from the Internet. Such services require immediate electronic payment and must be suitable for low value transactions.[63] Thus, for retail payment

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[58] Examples of direct fund transfers are GIRO payments and EFTPOS transactions.

[59] Card payments are payments made by credit cards, debit cards and stored-value cards.

[60] One example is the creation of Secure Electronic Transactions (SET), a system to make secured payment through credit card via Internet. SET will be discussed further under this section.

[61] *See* Aziz ZA 'Banking and ICT Developments: Legal Issues' Keynote address by the Governor of the Central Bank of Malaysia at the Banking and Financial Law School 2001 organised by the Central Bank of Malaysia in Kuala Lumpur Malaysia on 24 – 26 April 2001. *Available at* <http://www.bnm.gov.my> last visited February 2002.

[62] Electronic commerce is simply defined as the use of the Internet for advertising, buying and selling goods and services. *See* Pountain D *The New Penguin Dictionary of Computing* (Penguin Books Ltd United Kingdom 2001) 156.

[63] *See* Rivlin AM, Kelley EW Jr., Donough WJ, Melzer TC, Pianalto S 'The Federal Reserve in the Payments Mechanism' Committee on the Federal Reserve in the Payments Mechanism 1998. *Available at* <http://www.newyorkfed.org> last visited March 2002.

services to expand, innovations must accommodate payment transactions for a various range of services provided via the Internet.

Furthermore, in order to encourage the use of new payment instruments, any innovation must have certain characteristics that can attract users to shift from using the existing payment instrument. Even though initiatives have been taken to develop new payment instruments such as electronic money, traditional payment methods, such as credit cards payment, still dominate the consumers' choice in making payments over the Internet.[64] As consumers, merchants and financial institutions are perceived to continue using credit cards, and as it is difficult to convince consumers and merchants to do so simultaneously,[65] further investments have been made to enhance the security of credit cards used via the Internet. This initiative is based on the fact that even though an open system[66] may face problems such as security and authentication, consumers still continue to make payment on-line by credit cards.[67] As consumers' preference in payment dies

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[64] *See* Tether T 'Payment Systems for E-Commerce' in Reed C, Walden I and Edgar L (eds) *Cross-Border Electronic Banking – Challenges and Opportunities* (2nd edn Lloyds of London Press London 2000) 167, 169.

[65] Both merchants and consumers have to be convinced at the same time, that the consumers will not use new electronic retail payment instruments such as stored-value card unless a sufficient number of merchants accept it, and merchants will not accept it until a sufficient number of consumers use it. *See* Chakravorti S 'Why Has Stored Value Not Caught On?' Emerging Issues Series, Supervision and Regulation Department (S&R – 2000 –6) Federal Reserve Bank of Chicago 2000. *Available at* <http://www.chicagofed.org> last visited March 2002.

[66] A movement among computer and software vendors who create an operating system that is not the sole property of a single corporation. An operating system is a software that enables the user of the computer to run all his other softwares. The operating system performs several functions: - it interacts with the user by receiving and acting on their commands; it is responsible for managing all the hardware in the computer, including the main memory, disk storage and the peripherals connected to it; and it is responsible for loading other application programs to perform specific jobs (for example word processor or spreadsheet) as and when the user requests them. *See The New Penguin Dictionary of Computing* (n 62) 345.

[67] *See* Proceeding from the Workshop on 'Promoting the Use of Electronic Payment - Assessing the Business, Technological and Legal Infrastructures' Conference organised by the Federal Reserve Bank of Chicago and Chicago-Kent College of Law, Illinois Institute of Technology on 7 and 8 October 1999. *Available at* <www.frbchi.org> or <www.kentlaw.edu> last visited November 2001.

hard,[68] credit cards have been modified to ensure that their use in the open system is under a more secured environment.[69]

Credit cards, that are used to initiate payment, have embedded magnetic strips containing encrypted information relevant for the discharge of payment obligations. The information includes the card number, expiry date, security data, verification features and other service codes that identify the cardholder and card issuer and route the payment messages.[70] Credit cards of the newer generation have a 'smart' characteristic, which contains a computer chip that provides more functionality, more information and greater security to the payment instrument.[71] To enhance security, the Secure Electronic Transaction (SET)[72] standard has been created for transactions made using existing payment products, such as credit cards. As credit card transactions identify five parties, *i.e.* the cardholder, the issuer, the merchant, the acquirer and the payment gateway,[73] SET is designed to facilitate a multiparty or three-way connection, *i.e.* the consumer, the merchant and the bank. It is specifically designed with credit card payment in mind,

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[68] This is due to the fact that credit cards were already popular even before the advent of electronic commerce as the only real way of achieving relatively rapid payment at a distance in relation to telephone sales. Using credit cards on the Internet simply involved the adaptation of the existing cardholder-not-present mechanism rather than the creation of a whole new infrastructure. *See* Tether T 'Payment Systems for E-Commerce' in *Cross-Border Electronic Banking – Challenges and Opportunities* (n 64) 167, 171. However, it is also to be noted that recently, network money such as PayPal has become increasingly successful in making payment for purchases over the Internet. *See* Chapter 1 section I.

[69] It has been argued that new technologies may find more markets in the developing countries than in the United States where markets for electronic financial services are often quite mature and customers may have little incentive to adopt newer technologies such as stored-value cards. *See* Winn J 'Catalytic Impact of Information Technology on the New International Financial Architecture' 34 *The International Lawyer* 137 (2000).

[70] *See* 'Bank of Canada's Functions on Payment Systems'. *Available at* <http://www.bankofcanada.ca> last visited March 2002.

[71] *Ibid.*

[72] SET is an open technical standard for the commerce industry developed by Europay, Visa International and Mastercard International as a way to facilitate secure payment card transactions over the Internet. Digital Certificates (also known as digital identification or electronic credentials) create a trust chain throughout the transaction, verifying cardholder and merchant validity. *Available at* <http://www.setco.org/set.html> last visited October 2002.

[73] *See* Committee on Payment and Settlement Systems Secretariat 'Security of Electronic Money' Bank for International Settlements 1996.

where credit card details used via the Internet are encrypted on despatch by the cardholder and are transmitted to the card organisation for authorisations and payment processing without being disclosed to the merchant.[74] This is opposed to the Secure Socket Layer (SSL), a standard that is designed to facilitate a two party Internet connection.[75]

Another new characteristic of the electronic retail payment is the provider of the services. Competition now exists between traditional payment service providers, such as financial institutions, and other private parties. The variety of emerging electronic retail payment methods reflects the competitive environment in which retail payment service providers operate, where these providers[76] strive to meet the diverse needs of consumers and businesses. Private sectors' innovations have been the key driving force behind the evolution of new electronic retail payment systems and will certainly continue to be so in the future. It can also be seen that the innovation in the retail payments market is coming, not only from financial institutions, but also from new entrants to the market; that is the commercial providers of retail payment services.[77]

D. Why Modernising the Electronic Retail Payment Systems is Important for ICT Development

Technology plays an important role in the development of financial services, which includes electronic retail payment systems. Financial institutions converge and consolidate to reap cost benefits of technology, which may transform the financial

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[74] *See* Tether T 'Payment Systems for E-Commerce' in *Cross-Border Electronic Banking – Challenges and Opportunities* (n 64) 167, 178.

[75] Digital certificates encrypt data using SSL technology is a standard method for protecting web communications, which was developed by Netscape Communications Corporation. The SSL security protocol provides data encryption, server authentication and message integrity. *Available at* <http://www.wp.netscape.com/security/techbriefs/ssl.htm> last visited October 2002.

[76] Both the financial institutions and non-financial institutions.

[77] *See* 'The Federal Reserve in the Payments Mechanism' (n 63).

landscape.[78] The reason for this is because the Internet is not only utilised as a delivery channel, but is also used as a tool for financial institutions to compete. This evidently means that the Internet can alter the financial sector in a fundamental way. By expanding the consumers' choices, the Internet can play a role in consumer education and shaping their expectations. This in turn accelerates the pace by which financial products and services are engineered and rolled out.[79]

The rapid development of technology and the Internet is no doubt due to the Internet which introduces new and efficient ways of conducting financial services with far-reaching effects on marketing of financial products, delivery, payments and risk management elements.[80] It also provides the platform to link multiple providers and consumers globally, efficiently and conveniently. Together with technology, the Internet has opened up new opportunities for conducting business. For instance, with the development of electronic commerce, non-financial institutions are now able to compete[81] with the financial institutions in providing electronic retail payment services through the Internet.

The competition between financial institutions and non-financial institutions in providing retail payment services has become strife. Consumers are becoming more sophisticated as they gain access to an array of information provided through the Internet.[82] They increasingly exercise their choice, and preference can be changed much

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[78] *See* Koh YG 'Financial Supervision in the New Millennium' Speech by Managing Director of Monetary Authority of Singapore at the 'Millennium Law Conference' in Singapore on 10 April 2000. *Available at* <http://www.mas.gov.sg> last visited April 2002.

[79] *Ibid.*

[80] *Ibid.*

[81] In Europe, both banks and post offices provide payment services. If a supplier offers a more desired instrument, its market share and payment revenues rise. Competition between bank and non-bank providers of payment services has been a factor in promoting the shift from paper to electronics. However, a similar incentive does not exist in the United States, as banks are (effectively) the only suppliers of both paper and electronic payment services. Shifting a customer from cheque use to electronic payments merely succeeds in shifting transaction business from one part of the bank to another. *See* 'Transforming Payment Systems – Meeting the Needs of Emerging Market Economies' (n 19).

[82] *Ibid.*

more easily on the Internet when choosing their method of payment via the Internet. They will seek out the best method of payment for their needs, and will often do so with little advice. Fundamentally, therefore, the Internet is shifting the choice of payment and payment instruments from the provider of the services to consumers.

The retail electronic payment systems in emerging economies have undergone major changes as economies develop. In modernising their retail electronic payment systems, emerging economies have taken advantage of electronic networks to store and handle funds instead of relying on physical transfer.[83] This has a significant impact on participants and users of retail electronic payment services. As systems become more modernised, both parties' expectations are high, and they expect efficiency and variety of choice.[84] Furthermore, modernising retail electronic payment systems will enhance the efficiency of the financial system. Clearance, payment, and settlement systems with optimum security, which guarantee the final settlement, are key factors that determine the soundness of the infrastructure of the financial sector. It is also vital for participants and users of the systems, so that they can rely on the systems effectively.

An electronic payment system, which includes retail payment, is an integral component of financial stability.[85] When the electronic retail payment system is efficient, it will also produce important effects that gain public confidence. The safety of the financial system is crucial to avoid any reputational risk[86] on behalf of the government.

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[83] It is argued that even though emerging economies would want to leapfrog past the early developed countries' efforts into the state of the art systems, the rapid change may not be practical from a financial, institutional or human resource standpoint. *See* 'Modernizing Payment Systems in Emerging Economies' (n 10).

[84] *Ibid.*

[85] It is argued that the technological revolution in the field of ICT has had profound implications in terms of speed and variety of transaction. Because of the complex nature of modern payment systems, which function in an integrated economy, the payment system has to be acknowledged as relevant to the financial stability. *See* Sidaoui J 'The Contribution of Payment Systems To Financial Stability.' *Available at* 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' (n 21).

[86] Reputational risk is a risk of significant negative public opinion that results in a critical loss of funding or customer. *See* Basle Committee on Banking Supervision 'Risk Management for Electronic Banking and Electronic Money Activities' Bank for International Settlements 1998.

Reputational risk has a contingent effect and can tarnish the overall payment system operation, which in turn will have an impact on the stability of the financial system.[87] Reputational risk may also involve actions that can create a lasting negative public image of the overall payment systems, such that the particular industry offering the electronic payment services' ability to further maintain customer relationship may be impaired.

E. Initiatives Taken by Emerging Economies in Modernising Electronic Retail Payment Systems

The emerging economies recognise that an efficient and modern payment system is one of the key factors for economic development.[88] The initiatives taken by emerging economies to develop ICT and electronic commerce include the modernisation of the payment system. The evolution of the payment systems in Malaysia, Singapore and Hong Kong that has taken place over the years has been driven by technological advancement, changing consumer needs and new financial activities.[89] Payment systems have changed from essentially paper and cash-based transactions to a diverse range of cashless payment instruments, as well as efficient and reliable clearing and settlement systems.[90]

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[87] *Ibid.*

[88] *See* Payment Systems Principles, Practice and Improvements' (n 1).
For example, Malaysia recognises the importance of the ICT revolution and has included recommendations to increase efficiency of the payment systems in order to support the needs of the financial system. *See* Bank Negara Malaysia 'Financial Sector Masterplan' 2001 at 35 and 52.

[89] *See* Hong Kong, Singapore and Malaysia current retail payment systems in EMEAP Working Group on Payment and Settlement Systems 'Payment Systems in EMEAP Economies' EMEAP July 2002 at 99 - 133, 278 - 298 and 391 - 417.
The Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) was established in 1991, is a cooperative organisation of central banks and monetary authorities in the East Asia and Pacific region. Its primary objective is to strengthen the cooperative relationship among its members. It comprises the central banks of eleven economies, which are the Reserve Bank of Australia (Australia), the People's Bank of China (China), Hong Kong Monetary Authority (Hong Kong), Bank Indonesia (Indonesia), Bank of Japan (Japan), The Bank of Korea (South Korea), Bank Negara Malaysia (Malaysia), Reserve Bank of New Zealand (New Zealand), Bangko Sentral ng Pilipinas (Philipinnes), Monetary Authority of Singapore (Singapore) and Bank of Thailand (Thailand). *Available at* <http://www.emeap.org:8084> last visited October 2002.

[90] *Ibid.*

For example, Malaysia has included the development of stored-value card in its Multimedia Super Corridor (MSC) project. The Payment Multipurpose Card[91] with its chip-based technology is one of the flagship applications introduced during the launching of MSC.[92] Hong Kong has also been active in developing retail payment systems in positioning it as the leading electronic business community. It has included the development of the stored-value card as one of the key result areas in its 2001 Digital 21 strategy.[93] The Singapore Government is also taking initiatives in the development of its own stored-value card. The multipurpose stored-value card, named the NETS CashCard, has been a success[94] in Singapore since it was launched in 1996. The NETS CashCard has gained the cooperation of Visa's stored value mark, namely the Visa Cash, and the adoption of the open Common Electronic Purse Specification (CEPS), which will enable the cardholders to transact overseas in the near future.[95]

There is also a continuous effort by emerging economies to enhance already existing electronic retail payment instruments. Payment instruments such as credit cards and ATM transactions are being upgraded continuously to cater for the rapid development of ICT.[96] This upgrading is necessary because the success of having a good and efficient retail payment system will depend on the variety of payment instruments offered to the users.

In Malaysia, in order to further improve customer services, local banking institutions have established three ATM switches, which are linked to each other in the

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[91] *See* Chapter 4 section II under A.

[92] *Ibid.*

[93] *See* Chapter 1 section IV under B.

[94] Since the launching of the card scheme in 1996, as of July 2005, more than six million cards have been issued. *Available at* <http://www.nets.com.sg/consumer/using_cashcard> last visited July 2005.

[95] *See* 'Payment Systems in EMEAP Economies' (n 89) 402. However, it should be noted that as of July 2005, there are no reports on the NETS Cash Card being used overseas. *Available at* <http://www.nets.com.sg/consumer/using_cashcard> last visited July 2005.

[96] *See* 'Payment Systems in EMEAP Economies' (n 89) 288.

Malaysian Electronic Payment System (MEPS).[97] MEPS consolidates and operates the switching, clearing and settlement operations of the networks. As a result of the merger of these ATM networks, Malaysia has moved to a more cost effective and efficient use of resources by operating a single, integrated ATM network of the local banking institutions.[98] With MEPS' shared ATM network, the public are able to access their bank accounts and conduct transactions, such as cash withdrawals and balance enquiries at any ATM machine nationwide within the MEPS network. Besides cash withdrawals, ATM also provides an extended range of services, such as bill payments, fund transfers between accounts and payments for share subscriptions at initial public offering.[99]

Credit cards, debit cards and charge cards are all common methods of making payment in Malaysia, Singapore and Hong Kong.[100] These emerging economies are constantly developing these payment methods in order to enhance services and encourage usage.

In Malaysia, the use of credit cards such as Visa and Mastercard is popular.[101] This is also the case in Singapore[102] and Hong Kong[103] where major credit cards are

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[97] MEPS is the Malaysian Electronic Payment System Sdn. Bhd. which was incorporated in 1996 and owned by a consortium of local financial institutions.
Available at <http://www.meps.com.my/about/about.htm> last visited April 2004.

[98] *Ibid.*

[99] *Ibid.*

[100] *See* 'Payment Systems in EMEAP Economies' (n 89) 283 - 284.

[101] The number of credit cards issued in Malaysia in 2004 was 6.6 million with total transactions amounting to MYR 34.9 billion. *See* 'Bank Negara Annual Report 2004' (n 57) 221.

[102] The total number of credit and charge cards issued in Singapore at the end of second quarter of 2005 amounted to more than three million cards. *See* 'Table 1.15 Credit and Charge Card Statistic'.
Available at <http://www.mas.gov.sg/msb/msbView.cfm> last visited July 2005.

[103] There are around nine million credit card accounts in Hong Kong at the end of second quarter of 2005.
Available at <http://www.info.gov.hk/hkma/eng/statistic> last visited July 2005.

offered. In these economies, the central banks play a major role in regulating the credit card companies and subjecting them to their guidelines and regulations.[104]

The use of debit cards in Singapore is wide. Singapore has both the PIN-based and signature-based debit cards.[105] VISA electron card[106] and the Debit Mastercard[107] are examples of signature-based debit cards in Singapore.[108] In Hong Kong, the widely used debit cards are Easy Pay System or EPS which links up the consumers and the merchants via banks' electronic systems. Payments can be made by ATM cards at any outlet that displays the EPS logo. The transaction involves a direct transfer of funds from the bank account of the consumer to that of the merchants at the Point-of-Sales or POS using the bank's ATM cards.[109]

In order to enhance the usage of the debit card in Malaysia, banking institutions have issued both domestic and international brand debit cards, such as Visa Electron and Mastercard Maestro.[110] MEPS has set up a domestic debit card switching network that enables universal usage by all debit card merchants.[111]

An efficient payment system is one of the key factors in promoting financial stability.[112] Increasing the efficiency and stability of the payment systems was one of the

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[104] *See* 'Payment Systems in EMEAP Economies' (n 89) 107, 283, 398.

[105] *See* 'Payment and Settlement Systems'. *Available at* <http://www.mas.gov.sg> last visited July 2004

[106] *Ibid.*

[107] *Ibid.*

[108] *Ibid.*

[109] *Ibid.*

[110] *See* 'Payment Systems in EMEAP Economies' (n 89) 284.

[111] However, it should be noted that as in 2004, compared to other non-cash payments in Malaysia, the volume of debit card usage was only 0.01%. *See* Table 10.2 on Non-Cash Payments in Malaysia. *Available at* 'Bank Negara Malaysia Annual Report 2004' (n 57) 223.

[112] *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

recommendations[113] made under the Financial Sector Masterplan of Bank Negara Malaysia (BNM) in 2001. The recommendation states that a strong financial system requires a payment system that is capable of facilitating settlements among various financial players and for various types of instruments in the market. The Masterplan[114] includes proposals on the regulatory framework of both the conventional payment mechanisms such as ATM, debit cards, credit cards and charge cards and new payment mechanisms that use the Internet as a medium, such as electronic money, electronic cheques[115] and barter trade exchanges.

F. Lessons to be Learnt from Developed Countries in Modernising Electronic Retail Payment Systems

The importance of an electronic retail payment system for the development of ICT has been recognised by CPSS.[116] CPSS has conducted a comprehensive review of retail payments[117] concentrating on the payment instruments, the settlement issues and the policy implications for central banks.[118] Previously, CPSS only examined issues relating to large-value payment and settlement systems.

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[113] *See* Recommendation 3.27 in 'Financial Sector Masterplan' (n 88) 52.

[114] *Ibid.*

[115] Electronic 'cheques' system is where the software permits users to create what are intended to be electronic equivalents of paper cheques that can be transmitted to retailers over the Internet and result in funds being transferred through the traditional clearing infrastructure from an existing bank account. *See* 'Security of Electronic Money' (n 73).

[116] The CPSS was created in 1990 and serves as a forum for the central banks of the Group of Ten countries (G10) to monitor and analyse developments in domestic payment, settlement and clearing systems as well as in cross-border and multicurrency settlement schemes. G10 is made of 11 developed countries, namely Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States. *Available at* <http://www.bis.org> last visited June 2003.

[117] *See* Hartmann W 'Major Issues in Relation to Payment and Settlements.' *Available at* 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' (n 21).

[118] *Ibid.* Three steps have been established in order to gain a better understanding of the development in the market for retail payment system services in G10 countries and Australia. The three steps are represented through three reports, (1) 'Retail Payments in Selected Countries: A Comparative Study' 1999 (n 52); (2) Committee on Payment and Settlement Systems 'Clearing and Settlement Arrangements for Retail Payments in Selected Countries' 2000; and (3) Report of the Working Group on Retail Payment Systems Committee on Payment and Settlement Systems 'Policy Issues for Central Banks in Retail Payments' 2002.

Even though the concept of payment systems seems simple, the modernisation of the payment systems, be it wholesale or retail, is not. Payment systems of a country may evolve through a period of several years. The environment of each country, such as the size, legal systems, business practices and communications infrastructures are some of the factors influencing the development of the payment systems.[119] Studies made by the World Bank have proven that even though experience from developed countries may be considered by emerging economies, factors such as geographical size, concentration of the banking system, legal structure, cultural factors and stage of economic development may influence the evolution of the payment systems.[120] As such, no one particular country can be taken by emerging economies as a role model in restructuring the payment systems.[121]

However, lessons learnt by the developed countries during the process of developing retail payment systems can be beneficial. It is important to know why certain countries rely heavily on certain payment instruments,[122] even though it can be argued that developed countries are diverse enough to accept a variety of payment instruments offered to them. Even though there are new developments in retail payment instruments in the market, such as the emergence of electronic money and electronic cheques, the traditional method of making payment by credit cards is still the dominant payment method via the Internet.[123]

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[119] *See* 'Modernizing Payment Systems in Emerging Economies' (n 10).

[120] *Ibid.*

[121] *See* Humphrey DB, Sato S, Tsurumi M, Vesala JM 'Policy Research Working Paper: The Evolution of Payments in Europe, Japan and the United States' Financial Sector Development Department, The World Bank 1996.

[122] *Ibid.* It is argued that Japan relies heavily on cash at POS but uses electronic payments for bill payments and business transactions, Europe relies on credit transfer GIRO payments for all types of transactions while the United States relies heavily on cheques.

[123] In G10 countries and Australia, there is an increase towards the use of credit and debit cards for Internet payment. *See* Tresoldi C 'Report on the Activity of the CPSS Working Group on Retail Payment Systems.' *Available at* 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' (n 21).

A comparison made between the development of retail payment systems in the United States and Europe suggests that for non-cash payments, different countries choose to rely upon different payment instruments.[124] The proximate causes of these differences are more historical and political than economical. The shifts from paper to electronic payments are reported to be more successful in Europe than in the United States. This is because Europe has the following facilities: -[125]

i. A centralised postal GIRO and well developed banking system;
ii. A system of nationwide postal and banking offices;
iii. A greater emphasis on explicit pricing of payment services to users; and
iv. A government/banking system policy of directing payment instrument use toward the most cost-efficient method.

In Europe, both banks and post offices provide payment services. If one supplier offers a more desired instrument, their market share and payment revenues rise. Competition between bank and non-bank providers of payment services has been a factor in promoting the shift from paper to electronics.[126] However, similar incentives do not exist in the United States, hence the sole reliance on banks as suppliers of both paper and electronic payment services.[127]

The lesson that can be learnt from the United States is that new retail electronic payment instruments, such as electronic money, may never be successful. When various alternatives in making payment, such as cheques, credit cards and debit cards exist,[128] it

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[124] *See* 'Transforming Payment Systems – Meeting the Needs of Emerging Market Economies' (n 19).

[125] *Ibid.*

[126] *Ibid.*

[127] *Ibid.*

[128] *See* Gramlich EM 'Electronic Payment Symposium' Remarks by the Member of the Board of Governors of the Federal Reserve System at the University of Michigan Ann Arbor in Michigan United States on 17 September 1999. *Available at* <http://www.si.umich.edu> last visited March 2002.

can become a major hurdle for electronic money with the network problem.[129] When development is hampered by both parties, ideally the government should intervene to ensure that merchants, consumers and financial institutions adopt the appropriate technology. However, in practice, where other alternatives are cheaper and safer, intervention from government is both uneconomical and politically unlikely.[130]

The reason why developed countries have not made major developments in introducing new retail payment instruments is due to the fact that these countries already have in existence payment instruments that are functional and inexpensive. Also, developed countries continue to use currency[131] as a primary retail payment instrument despite signs of convergence.

The nature of commerce will continue to change with the growing familiarity of the Internet. This is bound to change the nature of retail payment systems. Payment systems are continuously changing to meet the varying needs of buyers and sellers. Organisations using 'different payment networks' for 'similar' commercial purposes and 'same payment networks' for 'very different' commercial reasons are not a new phenomenon.[132] Some of these events are motivated by the fact that it is easier to pay using 'preset mechanisms' than to change to a new system for infrequent transactions.

At other times, decisions are driven by a payment instrument's special features.[133] Malaysia, Singapore and Hong Kong have payment infrastructures which can provide payment transactions involving the Internet. From the experience of developed countries,

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[129] *Ibid.* This is when merchants are not willing to accept electronic money, consumers also will not use the instrument and vice versa.

[130] *Ibid.*

[131] *See* Tresoldi C 'Report on the Activity of the CPSS Working Group on Retail Payment Systems'. *Available at* 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' (n 21).

[132] *See* Mantel B 'E-Money and E-Commerce: Two Alternatives Views of Future Innovations' Chicago Fed Letter Number 163a Special Issues March 2001, Federal Reserve Bank of Chicago. *Available at* <http://www.chicagofed.org> last visited March 2002.

[133] *Ibid.*

one cannot expect users' in these countries to change payment patterns overnight, and adapt a new electronic payment instrument quickly. However, even if there is no immediate critical mass, the governments are taking measures to ensure further development of electronic retail payments as these governments often decide the direction of resource allocation.[134] Emerging economies also have the advantage of not having established a single retail payment instrument that is dominant.

III Factors for Consideration in Developing Sound and Comprehensive Regulatory Framework for Electronic Retail Payment Systems in Line with ICT

The development of ICT usually has the effect of diminishing geographical distance, the abolition of national borders and time zones, and the increased efficiency in manipulating the collection, dissemination, analysis and use of data.[135] The use of the Internet is more than just another delivery mechanism or cost-effective platform for financial providers; it enables the launch of a global strategy. The Internet plays a powerful role in educating consumers and shaping their expectations.[136] This, in turn, accelerates the pace by which payment service providers are engineered and developed.

However, the development of ICT cannot ignore the importance of the regulatory environment.[137] The rationale for financial market regulation remains essentially the same in the wake of technological advances. This is despite financial intermediations changing due to technological advances. The responsibilities of the regulators to protect

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[134] *See* Pistor K and Wellons PA (eds) *The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (Oxford University Press New York 1998) 5.

[135] *See* Endeshaw A *Internet and E-Commerce Law, With the Focus on Asia Pacific* (Prentice Law Singapore 2001) 13.

[136] *Ibid.*

[137] Regulation should not be seen as an action by the government to restrict behaviour and as preventive measures, but to see that influence of regulation may also be enabling or facilitative. *See* Baldwin R and Cave M *Understanding Regulation – Theory, Strategy, and Practice* (Oxford University Press New York 1999) 2.

consumers, to promote competition, and to maintain the stability and soundness of the financial system remain the same and no new technology will alter this.[138]

A. Risk Factor

Even with new technology, electronic retail payment systems cannot avoid certain risks.[139] These risks affect all participants of the retail electronic payment systems, *i.e.* the operator, the merchants and the consumers.

Advancement in technology does not change basic risks[140] borne by the electronic retail payment systems. However, it would appear that operational risk, reputational risk and legal risk may be the most important risk categories for new electronic payment services.[141] The impact of these risks differ and to some extent new.[142] Depending on the type of electronic retail payment instrument, the degree of a particular risk will be different.[143] Even if it were the same payment instrument, the risk would differ depending on the scheme.[144]

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[138] It was argued that the objective of financial regulations is to protect the consumer and the investor with the aim of providing equity for both parties. At a micro level, regulations aim at non-discrimination in relations between intermediaries and consumers. *See* Nieto MJ 'Reflections on the Regulatory Approach to E-Finance' BIS Paper No. 7 (Part 10) November 2001.

[139] Electronic retail payments such as Internet payments, which facilitate electronic commerce, have been identified to have a similar risk as traditional retail payment services. The risks identified are operational risks, legal risks, security risks and the risk of circumventing anti-money laundering legislation. *See* 'Retail Payments in Selected Countries: A Comparative Study' (n 52).

[140] The risks identified that are similar to traditional payment services are operational risk, legal risk, reputational risk, credit risk, liquidity risk, interest rate risk and market risk. *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

[141] *Ibid.* These risks are identified as most important and even though these risks result from a single problem, several methods of remedy may be required to address each of the risks.

[142] *Ibid.*

[143] *Ibid.*

[144] *Ibid.* For example, even if the payment instrument is electronic money, different degrees of risk exist, depending on the type of scheme it is part of.

Operational risk arises from the potential loss due to significant deficiencies in the system's reliability or integrity.[145] It may arise from attacks on the system or the payment instrument and from consumers' misuse.[146] Inadequate design or inadequate implementation can also be the reason for this risk.[147] Operational risk can also arise from deficiencies in the information system, from internal control or from human error.[148] Where human error is involved, operational risks will still exist even if the system is modernised.[149]

The lack of operational risk management may create loss to the consumer as the operator of the system fails to discharge its obligation to the customer and damage the confidence of the financial system.[150] The operator may also be more susceptible to financial crime.[151]

Operational risk can increase with new technology. This is because operational risk can derive from security and system design, which are where technology is being applied.[152] With the development of new technology for better and faster payment services, the retail payment system and its payment instruments are designed to facilitate these expectations. Controlling the system would be complicated as computer capabilities

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[145] *Ibid.*

[146] *Ibid.*

[147] *Ibid.*

[148] *See* 'A Glossary of Terms Used in Payments and Settlement Systems' (n 15).

[149] The way the service provider manages its employee can be a major source of operational risk. Poorly trained or overworked employees may expose the operator to operational risk. In addition, the service provider of a payment system may find that the availability of its employees, or its ability to replace them can influence its ability to recover from interruptions to the continuity of its operations. *See* Financial Services Authority 'Operational Risk Systems and Controls' Consultation Paper No 142 July 2002 at 14. *Available at* <http://www.fsa.gov.uk/pubs/cp/cp142.pdf> last visited August 2005.

[150] *Ibid* 4.

[151] *Ibid.*

[152] *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

are expanded and open networks such as the Internet are used. Security risk[153] would become apparent and the impact of its failure would be great. With all information online and stored electronically, issues such as access and authentication problems would also arise.

The security of the system can be compromised both externally and internally. An external problem could come from an outsider, such as a hacker,[154] operating through the Internet to gain access, retrieve and use the information on the system. Internal problems, however, arise when the system is abused by an employee to commit fraud. The system's design, implementation and maintenance also have a great impact on users as technology develops. As the system develops in complexity and sophistication, expectations of users increase. If and when interruptions and breakdowns occur in the system, an erosion of public confidence can take place.[155]

With the rapid development in technology, retail payment service providers, be they financial institutions or non-financial institutions, may rely on external parties to implement, operate or support certain portions of their scheme. Even though outsourcing can be beneficial in terms of expertise and cost, it can also render the operations risky.[156] This is because external providers may not perform as expected which can lead to system breakdowns, thus jeopardising the whole system.[157] There is also the concern that if

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[153] *Ibid.*

[154] A 'hacker' is a person who gains unauthorised access to computer systems and networks. *See The New Penguin Dictionary of Computing* (n 62) 217.

[155] *See* 'Operational Risk Systems and Controls' (n 149) 4 and 8.

[156] There are also concerns of inadequacy of due diligence, poor documentation of rights and responsibilities and weak ongoing management practices employed in conjunction with outsourcing activities. Some banks or industries have under-estimated the cost savings from outsourcing, have unrealistic timetables and potential disruption of operations in association with outsourcing. *See* Sato S and Hawkin J, 'Electronic Finance: An Overview of the Issues' BIS Paper No. 7 November 2001.

[157] *See* Harris R 'Does Outsourcing Reduce Operational Risk?' on Operational Risk Federal Reserve Bank of Chicago September 2001 at 6. *Available at* <http://www.chicagofed.org/bankinginformation/files/operationalriskarchieve2001outsource.pdf> last visited July 2005.

outsourcing is not managed properly, the service provider may lose its control over the quality of performance of outsourced activities.[158] This is because unlike internal conducted activities, the control a service provider has is often based on how well the contract with the outsourcing party is drafted.[159]

To prevent obsolescence, the electronic retail payment systems will need to be updated periodically. Without timely maintenance, interruptions may occur to the system.[160] New updated systems also require trained staff who are involved with the day-to-day operation of the system. It has been identified that poor internal governance was a factor for most instances of unsound operations of banks.[161]

The introduction of new technology requires the consumer to be informed and educated of the new retail payment instruments and the methods of using these instruments. Users must also be informed of security. They must be made aware that personal information, such as authentication information, credit card numbers and the bank account numbers cannot be revealed, as this would enable unauthorised transactions by other parties, which could then lead to operational problems.

Singapore is concerned with the development of Internet Banking (which provides retail services to its customers) in relation to outsourcing. The Monetary Authority of Singapore (MAS) has issued a statement that the operation of outsourcing must be managed carefully and must maintain comprehensive audit trail and provide MAS with unrestricted access to such information as in traditional banking. *See* 'Internet Banking Announcement – MAS Policy Statement on Internet Banking' Media Release from Monetary Authority of Singapore 19 April 2000. *Available at* <http://www.mas.gov.sg> last visited April 2002.

[158] *See* 'Operational Risk Systems and Controls' (n 149) 16.

[159] *Ibid.*

[160] The channels for distributing software updates also pose risks for payment service providers in that criminal or malicious individuals could intercept and modify the software. *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

[161] This was investigated through the analysis of banking vulnerabilities of IMF member countries. *See* Lindgren Carl-Johan, Garcia GH, Saal MI 'Bank Soundness and Macroeconomic Policy' International Monetary Fund 1996 at 106-108. *Available at* <http://www.imf.org/external/pubs/cat> last visited July 2005.

Reputational risk[162] is another major concern in developing new retail payment systems. Reputational risk results when the failure of your or other systems affects the reputation or the image of your system. Emerging economies that are in the process of developing new retail payment services would face negative public reaction as a result of a breach in security. Substantial loss of one institution may affect other institutions offering similar instruments or services.[163] This is because consumers may view similar products or services as suspicious, even though the institution does not face such problems.[164]

Reputational risk can also be the result of another risk, such as operational risk. It has been shown that certain specific problems cut across risk categories.[165] For example, a breach in security allowing access to customer information can be classified as operational risk, but such events also expose the system operator to reputational risks and legal risks.[166] In cases where a big bank fails to provide its electronic money business due to a system failure, the security of other banks' system may also be affected. Under this extreme circumstance, such a situation may lead to systemic disruptions of the banking system.[167] If the failed institution is large or if its operational management problem is viewed as common among others, the failure could lead to loss of confidence in other institutions. For example, if the risk culture prevailing in the market is not prudent, the operational management of other institutions may be tainted by this tendency. The failure of Barings could have been described as such an occasion.[168]

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[162] *See* section II under D on definition of reputational risk.

[163] *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

[164] *Ibid.*

[165] *Ibid.*

[166] *Ibid.*

[167] *Ibid.*

[168] Barings, which was one of the oldest establishments in the City of London, collapsed as a result of massive losses incurred by Baring Futures (Singapore) Pte Ltd. in 1995. The losses were a result of unauthorised proprietary trading in exchange financial derivatives by Nick Leeson. *See* Norton JJ and Olive

Reputational risk can also arise because of outsourcing. If there is a system failure due to the fault of the outsource party, the service provider may face reputational risks. However, in operating a new and sophisticated system, it would be difficult not to outsource certain parts of the system's component. The expertise of another party is crucial for a system operating in ICT environment where outsourcing may be more efficient and beneficial. In such a situation, the system provider is faced with the dilemma of balancing between outsourcing and lessening its reputational risk.

Legal risk arises from violations of the laws, rules, regulations, or prescribed practices, or when the legal rights and obligations of parties to a transaction are not well established.[169] New electronic retail payment system activities may create uncertainties about their legal rights.[170] This could be because they do not really understand the instrument itself or even the whole process.[171] It could also be due to unclear laws and regulations involving the new payment services.[172] With laws and regulations still catching up with the latest technology, there is bound to be uncertainty as to the rights and obligations of the parties involved in the payment transaction.[173]

There is also the danger of consumers taking legal action against the payment service provider for disclosing their information to a third party. This may happen in circumstances where consumers' information is disclosed to an outsourcing party, which is involved with the operation of the retail payment system. Even though the disclosure of

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CD 'Globalization of Financial Risks and International Supervision of Banks and Securities Firms: Lessons from the Barings Debacle' 10 *International Law* 301, 305 (1996).

[169] *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

[170] *Ibid.* For example, electronic money activities (which is a retail payment services) are new in nature where the rights and obligations of parties to the transactions are uncertain. This may be partly due to unclear consumer protection rules of the country.

[171] *Ibid.* Where the consumer is uncertain about the validity of some agreements formed via electronic media.

[172] For example, Malaysia develops the cyberlaws on a 'piece meal' basis, which could lead to unclear implementation of the laws. *See* Chapter 1 section VI under A.

[173] *See* Chapter 1 section VI under B.

information is necessary and crucial for the purpose of the payment transaction, by not notifying the customers on the disclosure,[174] the payment service provider could face legal action.[175]

Legal risk arises when the retail payment service providers disclose consumers' information and face regulatory sanction.[176] Emerging economies like Malaysia have strict provisions in the Banking and Financial Institutions Act 1989 (BAFIA) regarding issues relating to consumers' information.[177] The Act forbids any licensed institution, any external bureau, any agent appointed by the licensed institutions, or any person who has access to the consumers' record to divulge information which relates to the affairs or account of the customer to any person,[178] unless the customer, or his personal representatives has given permission in writing to disclose such information.[179] Upon conviction,[180] the convicted parties shall be liable for a three-year imprisonment[181] or a

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[174] For example, the retail payment service provider might not specify the issue of the disclosure of information to another third party in the contract executed between the said provider and the customer, or it might not clearly specify the issue in the agreement.

[175] *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

[176] *Ibid.*

[177] BAFIA section 97(1).

[178] BAFIA section 97(1) states the following: -

> No person or officer of any licensed institution or of any external bureau established, or any agent appointed, by the licensed institution to undertake any part of its business, whether during his tenure of office, or during his employment, or thereafter, and no person who for any reason, has by any means access to any record, book, register, correspondence, or other document whatsoever, or material, relating to the affairs or, in particular, the account, of any particular customer of the institution, shall give, produce, divulge, reveal, publish or otherwise disclose, to any person, or make a record for any person, of any information or document whatsoever relating to the affairs or account of such customer.

[179] BAFIA section 99(1)(a) states that 'the provision of section 97 shall not apply to the disclosure of any information or document which the customer, or his personal representatives, has given permission in writing to disclose'.

[180] BAFIA section 103(1).

[181] BAFIA fourth column of the fourth schedule.

fine[182] of MYR 3 million or both.[183] However, the secrecy of consumers' information under this Act only applies if the payment service provider is a licensed institution.[184] It is not applicable if the service provider is a non-licensed institution.

The management of the risks attached to electronic retail payment systems would involve a certain degree of intervention from regulators. A new instrument such as electronic money will bring better efficiency to the retail payment system, but also make the management of the risk become more important.[185] This is so even if electronic money activities represent a small portion of the payment system. The regulator has to ensure that the system operator goes through the risk management process that includes the three basic elements of assessing risk, controlling risk exposure and monitoring the risk.[186]

B. Involvement of Non-Financial Institutions

Studies from the World Bank have shown that once money, production and investment are looked at in an integrated manner, banks and non-financial intermediaries can be seen as performing complementary functions essential to the economy.[187] This could be why non-financial institutions become more important, if not equivalent, to banks in providing retail payment services as the systems develop. The issue of the 'blurring' distinction between banks and non-banks, and the importance of non-banks has

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[182] BAFIA fifth column of the fourth schedule.

[183] BAFIA section 103(1).

[184] Under BAFIA, upon receiving an application and recommendation from BNM, the Minister of Finance will issue a licence to persons who carry out banking, finance company, merchant banking, discount house or money-broking business. *See* BAFIA section 2 on definition of licensed institution, section 4 on holding of licence and BAFIA section 6(4) on the powers of Minister of Finance to issue licence.

[185] *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

[186] *Ibid.*

[187] *See* Bossone B 'What Makes Banks Special? A Study on Banking, Finance and Economic Development' The World Bank Policy Research Working Paper 2408 in 2000.

been long recognised.[188] The position of banking industries will be unclear with the onslaught of new technology and new payment systems.[189] Electronic technology will allow the new entrants to offer much the same level of service as banks.[190] In fact, the involvement of non-banks, such as Diners Club International Ltd., in providing retail payment services such as the charge card,[191] is not new. With the development of new instruments such as the electronic money scheme, the involvement of non-financial institutions will increase.[192]

The participation of non-financial institutions in providing payment services can be a threat to financial institutions.[193] This is because the development of the Internet as a global network threatens the value of the closed proprietary networks developed by financial institutions. Regulators of this sector have to permit regulated financial institutions to quickly adapt to the new environment and at the same time permit non-banks to compete.[194]

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[188] Frazer P *Plastic and Electronic Money – New Payment Systems and Their Implications* (Woodhead-Faulkner Ltd. United Kingdom 1985) 188.

[189] *Ibid.*

[190] *Ibid* 197. However *see* Wenninger J 'The Emerging Role of Banks in E-Commerce' Volume 6 Number 3 Federal Reserve Bank of New York: Current Issues in Economics and Finance 2000 (*available at* <http://www.newyorkfed.org> last visited March 2002), where the author argued that banks cannot afford to be second in line even though there is competition from non-financial institutions. This is because banks are already using the Internet to deliver traditional payment products to consumers and the success of banks in coping the challenges will determine the scale of their influence.

[191] 'Charge card' is defined as a card issued by non-banks indicating that the holder has been granted a line of credit. It enables him to make a purchase but does not offer extended credit, the full amount of the debt incurred having to be settled at the end of a specified period. The holder is usually charged an annual fee. *See* 'A Glossary of Terms Used in Payments and Settlement Systems' (n 15).

[192] In fact, for electronic retail instruments, in terms of number of transactions, the non-banks are more prominent. For example, the Octopus Card, the stored-value card electronic money scheme, which is very successful in Hong Kong is operated by a non-bank special purpose deposit-taking company authorised by the Hong Kong Monetary Authority (HKMA) and are jointly owned by six transport operators. *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 26). *See* also Chapter 3 section II under D - 4 on Octopus Card.

[193] *See* 34 *The International Lawyer* 137 (2000) (n 69).

[194] *Ibid.*

Regulation is important, if not more crucial, when the service provider is extended to non-financial institutions. The only difference is that the regulator's approach has to change, since the nature of the provider is different. As the main duty of a regulator is to protect the general public, it is important to gain the public's confidence. In building a regulatory framework, the regulator has to ensure that laws and regulations are not too rigid that it would stifle innovation. Private industries have to be encouraged to develop new systems. At the same time, the regulator has to ensure that the interests of the users, *i.e.* the public, are protected.

As providers of electronic retail payment services are extended to non-financial institutions, the regulator has to regulate the confidentiality of consumers. Because of unequal bargaining power between the consumer and the payment service providers,[195] government intervention is necessary to ensure that the rights of consumers are protected. Under the traditional banking secrecy law,[196] a situation where the provider of financial services is a non-financial institution was unclear.[197]

C. Consideration of the Current Payment System Structure

Before new systems or instruments are introduced, it is important to understand how a particular country's payment system is structured. This is because new payment

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[195] In a situation where consumers have no knowledge of the monitoring of their spending habits, consumers have no power to stop the monitoring of information by the service provider.

[196] For example, BAFIA section 97(1) provides strict provisions on confidentiality of consumer's information: -

> No director or officer of any licensed institution or of any external bureau established, or any agent appointed, by the licensed institution to undertake any part of its business, whether during his tenure of office, or during his employment, or thereafter, and no person who for any reason, has by any means access to any record, book, register, correspondence, or other document whatsoever, or material, relating to the affairs or, in particular, the account, of any particular customer of the institution, shall give, produce, divulge, reveal, publish or otherwise disclose, to any person, or make a record for any person, of any information or document whatsoever relating to the affairs or account of such customer.

[197] The double standard situation under the law (depending on whether the payment service provider is a financial institution or non-financial institution) is one of the challenges for the emerging economies in regulating new electronic retail payment systems. *See* section III under A.

technology can usually, with some modifications, be adapted to local conditions and perform similar effectiveness in most environments.[198] In emerging economies with modern electronic retail payment systems and instruments, an improvement of the current structure may prove to be efficient and cost effective.[199]

Changes to the current retail electronic payment systems should also be evolutionary rather than revolutionary where successful improvements to the retail payment systems depend to a large degree on identifying important needs of the users and working closely with them[200] to find acceptable, incremental solutions.[201]

In considering the infrastructure of payment systems, including the retail payments, emerging economies should study the existing institutional and legal structures surrounding small-value payments. They should also obtain basic data regarding payment volumes and values by different payment instruments or methods currently in use. [202] Lack of basic information and clarity of the current policies made by relevant authorities may delay development.

D. Consideration of the Effects of New Technology

The effects of new technology are also one of the factors to be considered in developing the regulatory framework of retail electronic payment systems. The application of technology generates new opportunities, such as multipurpose smart cards,

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[198] *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

[199] *Ibid.*

[200] 'Users' in this context refers to the users of the retail payment systems and retail payment instruments such as the payment service providers, which can be financial institutions or non-financial institutions, the merchants, or the consumers.

[201] *See* 'Payment Systems Principles, Practice and Improvements' (n 1).

[202] Including adequate information regarding the nature of the opportunities and reasonable access to the market, which is crucial in examining the development of payment instrument. *See* Staff of the Bank of Canada and the Development of Finance 'The Canadian Payment System: Public Policy Objectives and Approaches – Background Paper for Discussion' Bank of Canada Payment System Advisory Committee Discussion Paper No. 2 May 1997. *Available at* <http://www.bankofcanada.ca> last visited March 2002.

sophisticated encryption and identification systems, a growing selection of services available on wireless devices, and higher network speeds.[203]

New technology applied to the electronic retail payment system enables all parties of a transaction to be instantaneously and simultaneous, regardless of the physical distance that separates them. For such a transaction to become effective, a secured network has to be in place. Security measures have always been a serious concern to all users of computers and communication facilities. One of the attempts to prevent breach of security is the adoption of data encryption[204] technology. In recent years, more sophisticated algorithms have been devised that make cracking encryption more difficult.[205]

Another important issue is the choice of platform, which involves the consideration of security versus costs. Any system operator would choose the Internet as the platform for developing retail payment systems, because the Internet is already in place connecting individuals and offices, it has the advantage of being cheap and flexible, and has no need for a special connection. The Internet is also available to smaller firms, providing a level playing field.

However, there are doubts about the security and reliability of using the Internet. The routing[206] of messages makes it possible for a message originating from one country

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[203] Based on Finland's experience in developing the payment system. *See* Leinonen H 'Developments in Retail Payment Systems' BIS Paper No. 7 (Part 6) November 2001.

[204] 'Encryption' is the use of cryptographic algorithms to encode clear text data (plaintext) into cipher text to prevent unauthorised observation. 'Cryptographic algorithms' is a mathematical function used in combination with a key that is applied to data to ensure confidentiality, data integrity and/or authentication. *See* 'A Glossary of Terms Used in Payments and Settlement Systems' (n 15).

[205] For example, the Cryptography and Anti-Piracy Group within the Microsoft Research of Microsoft Corporation was established where one of its roles is the on-going work on developing new cryptography methods and applications. *Available at* <http://www.research.microsoft.com/crypto> last visited July 2005.

[206] Routing is an automated process by which the network traffic is guided from one router to the next until it reaches its final destination. In a complex network there will be many alternative paths between any two points. *See The New Penguin Dictionary of Computing* (n 62) 425.

to be first sent to another country before reaching the originating country where the addressee is located.[207] The number of intermediaries can be very large which leads to time lag and security issues.[208] The use of dedicated networks may be preferred under some circumstances, especially when considering a community-wide network.[209] If this is the case, intervention through regulations may be the only option for emerging economies to ensure a safe and secure implementation.

E. Maintaining Users/Consumer Confidence

The benefits to consumers and merchants as users of new retail electronic payment instruments will depend on, among others, the easy access to the same technology in many locations. The users must be convinced that the system introduced is convenient; otherwise they will have the tendency to use existing methods of payment. The new retail payment system in place must not only be convenient, but also be at the lowest possible cost to all the parties involved in the transaction,[210] without, of course, compromising the speed, certainty, reliability, safety and convenience of the system.

In developing the regulatory framework consistent with the ICT development, the emerging economies have to consider key issues for further advancement of the system to benefit its users. One of the key issues is the rapidity of the fund movement due to modern technology. There must be a balance between cost effectiveness and maintaining the public acceptance and confidence in using the system. In order to attract consumers to use new electronic retail instruments, speed should therefore be one of the factors for

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[207] *See* Informal Working Group on Financial Technology Infrastructure of Hong Kong 'Financial Technology Infrastructure for Hong Kong' Hong Kong Special Administrative Region Government 1997. *Available at* <http://www.info.gov.hk/hkma> last visited April 2002.

[208] *Ibid.*

[209] *Ibid.*

[210] One of the reasons why electronic money did not become popular in Finland and people preferred to use debit cards was because while the debit cards were free to the customers, loading electronic money requires a service charge. *See* Palva M 'Proceedings from the Workshop on Promoting the Use of Electronic Payments: Assessing the Business, Technological and Legal Infrastructures' (n 67).

consideration. It would be unwise if payment settlements, such as electronic money schemes, took too long as delays would create uncertainty.[211]

To maintain public confidence, payment certainty must be considered. Users of the system must be confident of the finality of payment. This includes the certainty that the right payment is made to the right beneficiaries in the right amount and within the prescribed time.[212] Thus, the system must be designed with adequate control and reliability to ensure that the system is able to identify the payee and the payer, and to ensure that the amount or beneficiaries or transfer cannot be altered to the benefit of either party to the transaction or to a third party.[213]

The users must also be confident that the retail payment system data is not available to unauthorised sources. Any data that is made available to authorised parties must also be made known to the users involved, to ensure their confidence in using the system or the payment instrument.[214] Data should be protected from access during the transaction and after the payment is processed. On issues of confidentiality, it is crucial that the record of the data is maintained consistently. Each party of the transaction must be able to prove its role in the transaction, to prove payment has been made and to provide all the information that is needed and necessary.[215] As no system can guarantee that it will work all the time and transactions could fail, the users must also be satisfied that there are adequate contingency provisions and controls to ensure reasonable access to historical data for audit trail. The systems must have adequate back up capabilities if one or more of the processing systems fail.

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[211] *See* B Mantel 'Why Don't Consumers Use Electronic Banking Products? – Towards a Theory of Obstacles, Incentives, and Opportunities' Emerging Payments Occasional Paper Series at (EPS – 2000 – 1) Federal Reserve Bank of Chicago 2000. *Available at* <http://www.chicagofed.org> last visited March 2002.

[212] *See* 'Modernizing Payment Systems in Emerging Economies' (n 10).

[213] *Ibid.*

[214] *Ibid.*

[215] *Ibid.*

In order to reassure the public on payment certainty and good control, a structured regulatory framework is needed. This structured framework is not only for efficient electronic payment flows, but also for resolution of errors and disputes. In addition, there must also be certainty of the authorities in charge of the new regulatory framework.

Fraud risk is the risk where an unauthorised user is able to use the payment system for financial gain, or a participant in the payment process presents a monetary claim that is not backed by the value stated.[216] An important issue with fraud risk is the allocation of monetary losses when it occurs. Consumers and merchants generally prefer if the liability falls on the payment service provider. Payment instruments with this characteristic may also penetrate the market more quickly.[217] The issue on fraud also extends to provision in the law to include issues on tampering of data and unauthorised access to the payment transaction data.[218] This requires the ability of service providers to identify the payee and payer properly and to ensure that amounts transferred or beneficiaries of transfers cannot be altered to benefit any parties of the transaction or to another third party.

There is also the issue of credit risk, because the receiving party of the fund does not know whether the funds actually exist in the payer's account most of the time. The inability to acquire funds may result from the payer, a payment intermediary, or the issuer's inability to process or make good on its obligation to deliver good funds.[219] This will create a credit risk between the two parties and also the two banks involved.

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[216] *See* 'Why Has Stored Value Not Caught On?' (n 65).

[217] *Ibid.*

[218] For example, the employee of the system provider could acquire authentication data in order to access customer accounts, or steal the stored-value cards. *See* 'Risk Management for Electronic Banking and Electronic Money Activities' (n 86).

[219] *See* 'Why Has Stored Value Not Caught On?' (n 65).

F. Cooperation Between Regulators and Private Industries

In determining the relevant issues and provisions to the regulatory framework, regulators of the emerging economies should also work with private industry experts to identify any legal impediments that hinder the growth of new and emerging retail payment methods, and, when appropriate, propose solutions to those impediments.[220] With the rapid development of new technology, regulators in emerging economies cannot exclude experts from the private sector in developing new regulatory framework in areas relating to ICT.[221]

IV Government Intervention in Regulating Electronic Retail Payment Systems

The rationales for regulation are: -[222]

i. Where there are new ideas being forced that upset the status quo;
ii. Where emphasis rests on the pressure of interest that acts in pursuit of developments;
iii. Where changes are seen to flow from changes in habitat that make old policies obsolete in the face of new conditions, and technological advances or economical changes are seen to be the driving force; and
iv. Where policies are destroyed because of internal problems.

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[220] It is recognised that as the country grows, the private sectors should play an important part and take active roles in the development of payment systems. This is the case in all developed countries. *See* CPSS Task Force on Core Principles of Payment System reported in Committee on Payment and Settlement Systems 'Current Topics in Payment and Settlement Systems' Papers presented at CPSS Asian-Pacific Workshop in Hong Kong SAR in May 1999 for the Bank for International Settlements 1999.

[221] *Ibid.* For example, the government should collaborate with the industry in assessing the need for standards of retail payments and processing, such as for the privacy and security of transaction information, addressing liability and risk in emerging electronic payments, and specifications concerning authorisation of transactions.

[222] *See Understanding Regulation – Theory, Strategy, and Practice* (n 137) 18.

The strongest reason for the government to regulate the electronic retail payment system is because technological advances make existing policies obsolete.[223] This theory is based on the idea that those seeking to develop regulations do so for the purpose of protecting the public interest and to achieve certain public desires.[224]

Nevertheless, it is difficult to identify what the interests of the public are[225] and regulation may take place amidst a clash of public interests.[226] Another argument against the public interest theory is the disinterestedness, expertise and efficiency that the public interest approach attributes to regulators.[227] Regulators may succumb to venality and be corrupted by opportunities for personal profits biasing their views.[228] There is also the argument that suggests that the public interest theory understates the degree to which economic and political power influence regulation.[229]

Financial regulation can be defined as the establishment of specific rules of behaviour on financial institutions.[230] The government, in regulating the market or industry, may intervene in the form of laws, administrative rules, taxation or moral suasion.[231] The intervention through government regulation may determine who may

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[223] *Ibid* 21-31. There are other interest theories, such as interest group theory, private interest theory, force of ideas theory and institutional theory.

[224] *Ibid* 20.

[225] *Ibid* 20.

[226] *Ibid* 20.

[227] *Ibid* 20.

[228] *Ibid* 20. There is also concern that regulators do not have the competence necessary to develop the regulation to protect the public interest.

[229] *Ibid* 20.

[230] *See* Goodhart C, Hartmann P, Llewellyn D, Rojas-Suãrez L, Weisbrod S *Financial Regulation – Why, How and Where Now?* (Routledge London 1998) xvii.

[231] *See* Sheng A 'Financial Regulation' Lecture by Deputy Chief Executive of the Hong Kong Monetary Authority at the Macquarie University MA (Finance) Programme in Hong Kong on 7 May 1997. *Available at* <http://www.info/gov.hk/hkma/eng/speeches> last visited May 2002.

participate in the market, thereby shaping the market structure, or control price setting and other dimensions of conduct.[232]

The advancement of technology has led governments to tend towards self-regulation. Self-regulation can be imposed through industry associations and codes of conduct. As the framework of regulations affects market behaviour, the efficiency and performance of the regulated market or industry will be altered by it.[233]

Institutions providing retail payment services, be they financial institutions or otherwise, have to be monitored in a way that will not hinder the growth and development of the financial sector.[234] The primary reason of regulating the electronic retail payment systems should be to maintain the stability of the financial system. A sound payment system is one of the key factors for financial stability and development of the economy.[235]

The Governments of Malaysia, Hong Kong and Singapore have taken the view that there should be some form of regulation that assists the development of ICT.[236] However, there is uncertainty on how to adjust the traditional approach of financial regulators to accommodate this change.

A. Issues on the Implementation of the Regulatory Framework

Emerging economies need to regulate the new markets with cooperation from the various relevant regulatory authorities and private industries. Participation of private

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[232] *See* Scherer FM and Ross D *Industrial Market Structure and Economic Performance* (3rd edn Houghton Mifflin Company United States 1990) 7.

[233] *See* 'Financial Regulation' (n 231).

[234] *Ibid.*

[235] *See* section II

[236] This is part of the allocative dimension discussed in *The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 134) 5.

sectors and the public in decisions on regulatory issues needs to be ensured. The input from experts is required in order to promote new electronic retail payment services.[237]

The regulator should study and understand how a particular system works before it can determine the regulatory framework. Cooperation from all parties is crucial if the regulator wants to plan and develop a new market, as intervention can be detrimental if not carefully applied.

Policy decisions should be transparent with clear directions and readily available to the public. In any ICT environment where there are many uncertainties, which includes government policy,[238] new developments will rely on information made available by the government. Disclosure of information is important for the management of risks[239] and payment service providers need accurate and reliable information for this purpose.

In the ICT environment, regulators will have to rely on the market for self-discipline to a certain extent. The correction of information asymmetry is a central role of regulators in that respect to let the markets manage their risks.[240]

Another challenge for emerging economies is to have a regulatory framework that promotes competition. The quality of retail payment services does not rely merely on the level of technology or speed of payment method but more on the reliability. Also, the

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[237] This type of cooperation or partnership is needed to gain all the knowledge necessary for the purpose of regulation. It is important for the policy maker, industry and consumer to listen to each other because in this way, the industry has a chance to devise solutions identified by the government and the government would gain a better understanding of the opportunities and constraints facing the private sector and the general public. *See* Ludwig EA 'Toward Electronic Money & Banking: The Role of Government' Remarks made by Comptroller of the Currency before the USA Department of the Treasury Conference on 19 - 20 September 1996. *Available at* <http://www.occ.treas.gov/FTP/realease/9-102.txt> last visited November 2002.

[238] Policies of the government would include the regulatory framework that is important for the service providers in developing new retail payment systems or payment instruments.

[239] Type of risks would include risks described in section III under A.

[240] *See* Yokoi-Arai M 'The Balance of Market Discipline in Bank Regulation' in Gorton L (ed) *International Seminar - The Breakdown of Public & Private Law Dichotomy in Commercial and Financial Law* (Finansierings – OCH Kommersiellrättsliga Studier 4 Lund Stockholm 2003) 81 - 105.

ability to pay through the same retail payment instrument by a number of different service providers is essential.

The most difficult and challenging aspect in developing the regulatory framework for retail payment services is creating a stable and consistent framework. The development of ICT brings about rapidly progressing technology and regulating such a market is synonymous to monitoring a moving target.

B. Approaches Taken by Emerging Economies in Shaping Regulatory Framework

The Internet transcends national boundaries and exposes consumers to a myriad of suppliers and products. It is increasingly difficult for regulators to block out all unlicensed service providers and suggestions have been made that consumers become better equipped to exert market discipline on service providers.[241]

However, it is questionable whether regulators in emerging economies are prepared to let market discipline be the main monitor of financial regulation. In an ICT environment, the approach taken by regulators has to be different from previous methods. The approach has to be based on a supervisory model that is flexible, transparent, stable promotes competition, and where the providers of retail payment systems are no longer limited to financial institutions.[242]

Emerging economies such as Malaysia, Singapore and Hong Kong are keen to regulate the new electronic retail payment systems efficiently as part of the allocative dimension of law.[243]

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[241] *See* 'Financial Supervision in the New Millennium' (n 78).

[242] It has been argued that before the development of ICT, the regulators' functions were only to regulate financial institutions. However, since the development of technology, it allows the separation of payment services and credit services, which reduce the role of the financial institutions on payment systems. *See* 'Reflections on the Regulatory Approach to E-Finance' (n 138).

[243] *See* Chapter 1 section VI. *See* also *The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 134) 8.

V Concluding Remarks

Malaysia, Singapore and Hong Kong, already regulate new electronic retail payment services, although only on a piece meal basis. For example, Hong Kong and Singapore have some provisions in their laws on issues relating to multiple stored-value cards[244] but not on network money[245] even though both products are defined as electronic money.

Emerging economies, such as Malaysia, want to play an important role not only in its regulatory functions, but also in the development of the payment system. The development of the Internet has enabled new forms of payment modes, such as electronic money, electronic cheques and barter trading through trade units instead of currencies.[246]

The question would then be to what extent regulation should be comprehensive. The Financial Sector Masterplan[247] issued by BNM states that it will provide the regulatory framework on payment systems area, which includes regulatory policies for both conventional and new electronic retail payment systems and the instruments. Regulators in Malaysia may be heading for a rigid regulatory framework for payment systems. The Masterplan issued includes wide policy objectives, regulatory oversight by BNM, minimum criteria and standards for service providers such as security, transparency of fees and charges, privacy and consumer education and awareness programs.[248]

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[244] *See* Chapter 3 section IV under D and E.

[245] *Ibid.*

[246] *See* Aziz ZA 'Impact of E-Banking and E-Commerce On Central Banking Functions' Governor of Central Bank of Malaysia Opening Remarks at the SEACEN Seminar in Kuala Lumpur on 9 January 2001. *Available at* <http://www.bnm.gov.my> last visited February 2002.

[247] *See* 'Financial Sector Masterplan' (n 88) 52.

[248] *Ibid.*

For the regulation of new electronic retail payment systems to be effective while ensuring the safety of new instruments, regulators need to balance the interest of all parties involved. This would involve a regulatory system that is open to external comments and responsive to technological advances. For countries such as Malaysia, which have the government advocating ICT development and consequent regulation, regulation should be open to comments from all stakeholders.

As such, the input and cooperation among relevant authorities that have an interest in payment systems is imperative. The functions and roles of each authority must be clear and transparent for all parties involved. Only with a clear regulatory framework would the involvement from the private sectors to develop the payment systems and payment instruments be possible.

CHAPTER 3

THE REGULATORY FRAMEWORK OF STORED-VALUE CARD, ELECTRONIC MONEY SCHEMES

I Introduction

This Chapter discusses a specific electronic retail payment instrument, stored-value card schemes of electronic money.[1] The development of stored-value card products and the regulatory framework for electronic money of various countries both developed and emerging economies are examined.[2]

Even though the utilisation of electronic money has not been as successful as was predicted in the mid 1990s,[3] interest in electronic money remains high. Various efforts have been made in supporting electronic money schemes, including regulatory authorities setting up a regulatory framework.[4] The latter is on the premise that electronic money will one day become the main mode of payment.[5]

The uniqueness of electronic money is examined precluding it from being a mere substitute to existing payment instruments. The different regulatory approaches taken by selected countries both in developed and emerging economies will then be contemplated.

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[1] When this thesis refers to 'electronic money,' it means only the stored-value card products unless otherwise indicated.

[2] This chapter will analyse the development of various electronic money schemes in emerging economies such as Singapore and Hong Kong. Malaysia's development of electronic money schemes will be dealt with in Chapter 4.

[3] However, recently there have been successes in stored-value card schemes. *See* section II under D - 4 and 5.

[4] Based on the survey done by the Bank for International Settlements (BIS) where 95 countries participated. *See* Committee on Payment and Settlement Systems 'Survey of Developments in Electronic Money and Internet and Mobile Payments' Bank for International Settlements 2004.

[5] *Ibid.*

II Definition of Electronic Money

There are many variations of the definition of electronic money. The term 'electronic money' has been used in different settings to describe a wide variety of payment systems and technologies. The Bank for International Settlements (BIS) defines electronic money as 'stored-value or prepaid products in which a record of the funds or value available to a customer is stored on an electronic device in the consumer's possession'.[6] The following explanation given by BIS distinguishes an electronic money product from an access product: -[7]

> "Stored-value" products are generally prepaid payment instruments in which a record of funds owned by or available to the consumer is stored on an electronic device in the consumer's possession, and the amount of stored "value" is increased or decreased, as appropriate, whenever the consumer uses the device to make a purchase or other transactions. By contrast, "access" products are those typically involving a standard personal computer, together with appropriate software, that allow a consumer to access conventional payment and banking products and services, such as credit card or electronic fund transfer, through computer networks such as the Internet or through other telecommunications links.

The Explanatory Statement of the European Commission's proposal to the European Parliament and Council Directives on the taking up, the pursuit and the prudential supervision of the business of electronic money institutions also described electronic money as follows: -[8]

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[6] *See* Heinrich G and Mizuno M 'Report on Survey of Electronic Money Developments in 68 Countries Worldwide' Bank for International Settlements 2000.

[7] *See* Committee on Payment and Settlement Systems Secretariat 'Security of Electronic Money' Bank for International Settlements 1996.

[8] *Available at* 'European Parliament and Council Directives' <http://www.ecu-activities.be/document/commission-proposal.html> last visited May 2001.

Electronic money can best be conceived as a digital form of cash since it has many of the characteristics of cash. The primary similarity is that to use electronic money authorisation is not required from a bank or other third party. Customers buy the electronic equivalent of coins and notes *i.e.* they exchange cash, on a one for one basis, for monetary value. The customer, in effect, has exchanged cash for another means of payment. Instead of using a debit card (which requires a bank account) or a credit card (which requires first the agreement of the credit card company or bank and second the appropriate advance of funds) the customer has purchased a non-cash means of payment which can be used in much the same way as cash or other forms of card payment but without the requirement of third party authorisation.

Based on the description given above, the definition of electronic money has been given a legal definition under Article 1 of the European Parliament and Council Directive 2000/46/EC. The definition states that: -

> Electronic money shall mean monetary value as represented by a claim on the issuer which is: (i) stored on an electronic device; (ii) issued on receipt of funds of an amount not less in value than the monetary value issued; (iii) accepted as means of payment by undertakings other than the issuer.

The definitions of electronic money above show that electronic money is not novel. It is just another form of payment that allows consumers to make payment for goods or services that are provided by the merchant from a shop or via electronic commerce. Both the development of electronic fund transfer, which started in the 1960s, and the development of electronic money do not change the underlying principle of what is money.[9] Under electronic fund transfers, the only change is the manner of delivery from paper to electronic means. This applies to electronic money schemes as well.[10]

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[9] *See* Solomon EH *Virtual Money – Understanding the Power and Risk of Money's High-Speed Journey into Electronic Space* (Oxford University Press New York 1997) 30.

[10] *Ibid.*

Money can be stored physically and payment made by delivering paper cash to another person. It can now be stored in a stored-value card or in a computer memory and transferred through an electronic medium.

Electronic money schemes do not create money. Money is transferred from existing money, mainly cash or deposits, into an electronic medium. The issuer of the prepaid stored-value cards has the use of the funds on the unspent float until consumers spend the electronic money stored in the card. This is similar to the issuance of traveller's cheques whereby the issuer of the traveller's cheques holds the consumers' funds or the float until that consumer cashes the traveller's cheques.[11]

A. Products of Electronic Money

The term 'electronic money' refers to both the hardware or prepaid cards, (also described as 'electronic purses')[12] and the prepaid software products or network-based, which use a computer network such as the Internet[13] (which is also described as 'digital cash').[14]

The hardware product, *i.e.* the stored-value card scheme, uses specialised hardware such as a plastic card with a magnetic strip or computer chip. The software product, *i.e.* the network-based, electronic money scheme is where software is installed

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[11] *Ibid* 68.

[12] BIS describes 'electronic purse' as a reloadable multipurpose prepaid card, which may be used for retail or other payment. *See* 'Implications for Central Banks of the Development of Electronic Money' Bank for International Settlements 1996.

[13] *Ibid.*

[14] For the purpose of this thesis, issues on prepaid software products or network-based will not be covered. The reference made to electronic money, unless otherwise stated, would refer to stored-value card schemes or prepaid cards. However, for the purpose of differentiating stored-value card and network-based schemes, this section states the definitions of both products.

on a standard personal computer connected to the network.[15] Under both electronic money schemes, the stored-value card or the personal computer contains electronic records representing the value of an amount that the consumer has purchased. The funds are drawn down when the consumer presents the device at the point of sale or initiates an electronic message from the device to the merchant.[16]

The hardware product, *i.e.* the stored-value card, can communicate with other chips in the card reader at the point-of-sale when other parties are present.[17] It can also communicate electronically when the parties are not face-to-face. For example, the stored-value card can use a card reader connected to the computer to transfer value from the card through the Internet to a merchant's terminal.[18] Most stored-value cards allow the value to be loaded onto the card from an account link to the card at the bank, from an Automated Teller Machine (ATM) machine or through the telephone. Stored-value card products, such as the Mondex scheme,[19] allow the customer to transfer value to the merchant via the Internet without having to go through the banking system.[20] The Mondex scheme also allows the value on the card to be transferred from one individual to another.[21]

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[15] *See* Group of Ten Report of the Working Party on Electronic Money 'Electronic Money – Consumer Protection, Law Enforcement, Supervisory and Cross Border Issues' Bank for International Settlements 1997.
The BIS defines network money as using software. However, successful schemes, such as PayPal, do not require software installation. *See* 'How Its Works' <http://www.PayPal.com> last visited July 2005.

[16] *See* 'Electronic Money – Consumer Protection, Law Enforcement, Supervisory and Cross Border Issues' (n 15).

[17] *See* Hance O and Balz SD *The New Virtual Money: Law and Practice*, (Kluwer Law International Netherlands 1999) 310.

[18] *Ibid.*

[19] Notably, the Mondex scheme has not been successful. *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[20] *Available at* 'Mondex' <http://www.mondex.com> last visited February 2003.

[21] *Ibid.*

B. Overall Development of Electronic Money

While the availability and usage of electronic money has been relatively slow, considering the high hopes placed during the 1990s, recent years have witnessed a marked progress.[22] There is a high possibility of electronic money schemes becoming the main mode of retail payment one day.[23] BIS acknowledged that electronic money would not replace cash as predicted a few years ago,[24] but has continued to regularly survey the development of electronic money worldwide.[25] The main focus of the survey is to ensure the preparedness of the central banks for electronic money.

The card-based scheme has been relatively successfully in a sizeable number of countries. It has been operating successfully in countries such as Australia, Austria, Belgium, Bolivia, Brazil, China, the Czech Republic, Denmark, Finland, France, Germany, Ghana, Greece, Hong Kong, India, Italy, Japan, Korea, Lithuania, Luxemburg, Malawi, Malaysia, Mexico, the Netherlands, Nigeria, Norway, the Philippines, Russia, Singapore, Spain, Switzerland, Taiwan, Turkey and Venezuela.[26] However, none of the card-based schemes have yet become cross-border.[27]

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[22] The success of stored-value card products is mostly in the payments of public transportation, road tolls and mobile phone related payments. *See* section II under D. Since 1996, the BIS in cooperation with the Committee on Payment and Settlement Systems (CPSS) and with the support of the CPSS Secretariat, has been regularly surveying electronic money developments around the globe with the help of central banks worldwide. *See* Committee on Payment and Settlement Systems Secretariat 'Survey of Electronic Money Developments' Bank for International Settlements 2000; Committee on Payment and Settlement Systems 'Survey of Electronic Money Developments' Bank for International Settlements 2001; 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[23] This includes the mode of network money as part of electronic money.

[24] *See* 'Report on Survey of Electronic Money Developments in 68 Countries Worldwide' (n 6).

[25] *See* 'Survey of Electronic Money Developments' 2000 (n 22), 'Survey of Electronic Money Developments' 2001 (n 22) and 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[26] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[27] *Ibid.*

C. The Acceptance of Stored-Value Card as a Method of Payment

Since electronic money was actively introduced to the public in the mid 1990s, there have been discussions on whether electronic money can be adopted as successfully as other payment methods.[28] New retail payment methods between business and customers have been taken up at a slow pace despite the rapid development of Information and Communications Technology (ICT). Even though the use of stored-value cards is increasing, it is only successful in certain countries and has not become the main method of retail payment.[29]

The impediments to the proliferation of stored-value cards are considered to stem from the users of the schemes. The Federal Reserve Bank of Chicago identified three factors for stored-value cards to penetrate the United States.[30] These factors are applicable to other payment instruments as well. The first factor is that consumers and merchants must be convinced of the advantage of stored-value cards over existing payment alternatives.[31] For stored-value cards to be favoured by consumers, they must be convinced that payment by stored-value cards is better than cash.

Consumers must be convinced that stored-value cards offer better security and are a more convenient way of making payment. However, one of the disadvantages of stored-value cards is that, unlike credit or debit cards, once the card is lost or stolen, monetary

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[28] *See* Macintosh KL 'Electronic Cash – More Questions than Answers' Association of American Law School Annual Meeting on 5 January 2001 in San Francisco California. <http://www.bu.edu/law/scitech/volume7/macintosh.pdf> last visited May 2003.

[29] For example, despite the initiatives taken by the Government of Malaysia to encourage the usage of stored-value cards for retail payment, cheques and credit cards remain popular. *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2004' at 221 and 223.

[30] *See* Chakravorti S 'Why Has Stored Value Not Caught On?' Emerging Issues Series, Supervision and Regulation Department (S&R – 2000 –6) Federal Reserve Bank of Chicago 2000. *Available at* <http://www.chicagofed.org> last visited March 2002.

[31] *Ibid. See* also Wenninger J and Laster D 'The Electronic Purse' Current Issues In Economics and Finance Volume 1 Number 1 Federal Reserve Bank of New York 1995. *Available at* <http://www.newyorkfed.org> last visited March 2002. As far back as 1995, it was suggested that in order for an electronic money scheme to be successful it must offer enough features for consumers, merchants and also the service providers.

value in the card cannot be replaced.[32] Consumers have a 'die-hard' habit of using cash.[33] Electronic money schemes will be compared with the convenience of cash. Since cash is a long established mode of small value payments, stored-value cards should only seek to complement cash. Merchants must be convinced that they can benefit from a lower volume of cash transactions as cash has safekeeping concerns. The speed of transactions must also be faster.[34]

The second factor is that payment providers must be able to convince both the consumers and the merchants, simultaneously, of the payment instrument's benefit in order to achieve critical mass.[35] Unless both consumers and merchants of the transaction use the same payment method, the 'coincidence of needs' cannot be met and other common payment modes, such as cash will be used. The consumers will benefit more if more merchants accept the payment instrument as a method of payment, and conversely merchants will benefit more from an increase in consumers using the payment instrument.[36]

Payment services, such as electronic money schemes, are network goods[37] as demand from the consumers and merchants are interrelated. Critical mass is reached when there is sufficient number of users for the network good to survive. Critical mass can be better achieved if electronic money applications were not a single purpose product.

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[32] *Ibid.*

[33] *See* Stuber G 'The Electronic Purse: An Overview of Recent Development Issues' Bank of Canada Technical Report No. 4 1996. *Available at* <http://www.bankofcanada.ca> last visited March 2002.

[34] Such as when payment is made by cheques.

[35] *See* 'Why Has Stored Value Not Caught On?' (n 30).

[36] *Ibid.*

[37] *Ibid.* A good is defined as a network good if a user of the good benefits from an increase in the number of users of that good.

One of the reasons why stored-value cards have been unsuccessful could be that consumers do not want to carry an extra card and merchants do not want to install another payment service.[38] It could be more attractive if the electronic money application were combined with other payment applications such as credit and debit card or other applications unrelated to payment.[39]

The third and the final factor is that the payment providers must assure both the consumers and merchants that adequate safety and security measures have been implemented, as this is crucial for users' confidence. The payment service providers must ensure that both users are convinced that there are minimal risks involved in using the payment services and instruments.[40] For example, both the consumers and merchants would want to know their position in the event of the payment service provider having to face liquidation as both parties may face significant losses. Another concern is the invasion of privacy when there is a risk of personal information being revealed through the use of electronic money schemes, as opposed to cash, which is anonymous.[41]

It is also reported by the European Central Bank (ECB) that countries cannot simply assume that the public will automatically accept electronic money schemes as another mode of making payment just because the schemes exist.[42] Electronic money is not the only payment instrument to make payment and has to compete with existing payment instruments such as credit cards with same capabilities. ECB argues that clarity of the regulatory framework could boost the confidence of consumers in making payment online as well as merchants in accepting electronic money. ECB further argued that even if the development is slow and there is no critical mass for electronic money, the product

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[38] Such as cash, debit or credit cards.

[39] Such as identification for university or working place.

[40] *Ibid.*

[41] *See* 'The Electronic Purse: An Overview of Recent Development Issues' (n 33).

[42] *See* 'The Effect of Technology on the EU Banking Systems' European Central Bank 1999. *Available at* <http://www.ecb.int> last visited March 2002.

would inevitably develop and authorities must be ready with the full knowledge in electronic money issues.[43]

D. Electronic Money Schemes in Several Countries

Various stored-value electronic money card schemes have been developed in many countries. Most of the existing schemes are national and do not have cross-border functions.[44] This section will look at several successful schemes that have been established in developed countries. Subsequently, stored-value card schemes in emerging economies will be discussed.[45]

1. The United States

The United States has not had any real success in developing electronic money schemes.[46] One of the reasons of the failure is perhaps due to the existing payment instruments that people are already familiar with.[47] There is no urgency to use the new payment instruments since cheques and credit cards can perform the same functions. In fact, it has been reported that existing payment instruments such as debit cards have shown an increase in usage despite the introduction of new payment instruments like electronic money.[48]

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[43] *Ibid.*

[44] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[45] Such as Singapore and Hong Kong. Electronic money schemes in Malaysia will be discussed in Chapter 4 section II under A, B and C.

[46] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[47] *See* 'Electronic Cash – More Questions than Answers' (n 28).

[48] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4) and earlier comments on the United States in 'Survey of Electronic Money Developments' 2001 (n 22).

(a) Washington Metropolitan Area Transit Authority

The Washington Metropolitan Area Transit Authority or WMATA has implemented a contactless fare card system for the local subway system.[49] The stored-value card or SmarTrip can download up to USD 200 in value complementing the traditional magnetic strip card throughout the subway system.[50] The usage has been expanded to metropolitan area buses.[51] There were around 360,000 SmarTrip cards in circulation at the end of 2004.[52]

(b) Other Closed System Stored-Value Cards

Other reported closed stored-value card schemes are in university campuses.[53] One example is George Washington University's Gworld Card that provides an official university identification, security access to buildings, on-campus dining, pre-paid debit amount for on and off-campus purchases. It will also include other facilities such as payment for parking, photocopying and university clubs.[54] The value to the card can be added through the Internet, the University's office or at the value transfer machines in the University's campus.[55]

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[49] *Available at* 'Washington Metropolitan Area Transit Authority' <http://www.wmate.com/riding/smartrip.cfm> last visited July 2005 and 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[50] *Available at* 'Washington Metropolitan Area Transit Authority' <http://www.wmate.com/riding/smartrip.cfm> last visited July 2005.

[51] *Ibid.*

[52] *Ibid.*

[53] *See* 'Gworld Card' <http://www.gworld.gwu.edu> last visited July 2005.

[54] *Ibid.*

[55] *Ibid.*

2. The United Kingdom

Many of the electronic money schemes in the United Kingdom have not been a success and have been discontinued.[56] However, there has been an increase in the usage of stored-value products for public transportation payment around London.[57] The Oyster card was developed and is managed by the TransSys consortium, in partnership with Transport for London's (Tfl) Prestige Team.[58] It is a stored-value card, which can be used for making transportation payment for the underground, buses, trams, Docklands Light Railway (DLR) and national rail services within London.[59] Besides functioning as a prepaid card, it can also store Travelcards and Bus Pass season tickets.[60] The Oyster card is a contactless smart card with the convenience of topping up the amount online, by phone, at underground stations, national rail ticket machines, Oyster ticket shops and London Travel Information Centres.[61]

3. Australia

Australia's stored-value card industry has continued to develop. The focus is mainly on electronic transport ticketing and road toll ways.[62] Australia is also keen to

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[56] For example, Mondex introduced a card-based stored-value product in 1995. During the pilot in Swindon, 14,000 cards were issued and 700 retailers participated. Besides its use to purchase goods, it could also accommodate parking payments, making telephone calls and payments for bus services. However the trial ended in 1998. Another example is Visa Cash where the pilot test was conducted in Leeds from 1997 to 2000. The project did not go beyond the pilot test and has now been discontinued. *See* 'Survey of Electronic Money Developments' 2001 (n 22).

[57] Due to the increase of the card usage, as of 2004, 6000 buses, 255 underground stations, 28 National Rail stations and 2300 local ticket outlets have been fitted with new smart card equipment. *Available at* 'Press Releases' <http://www.oystercard.com/press> last visited April 2005.

[58] *Ibid.*

[59] *Available at* 'Where You Can Use Your Oyster Card' <http://www.oystercard.com> last visited April 2005.

[60] *Available at* 'What is Oyster?' <http://www.oystercard.com> last visited April 2005.

[61] *Ibid.*

[62] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

develop the smart card industries, which have proved to generate AUD 450 million, of which AUD 390 million was in export.[63]

(a) Electronic Transport Ticketing Projects

The electronic transport ticketing in Sydney has implemented an integrated ticketing system for public transport. Huge investment has been made to provide new equipment for the purpose of implementing the transport stored-value card system on Sydney buses, trains, ferries and trams.[64]

Another project is the Translink smart card system, with stored-value capabilities, which was implemented in Brisbane in July 2004, to provide an integrated ticketing system in South-East Queensland to be used in buses, city trains and Brisbane city council ferries.[65] Translink will be introduced region by region in 2006.[66]

There is also the Metcard, a Melbourne OneLink project,[67] that provides electronic transport ticketing for public transport such as trains, trams and buses in Melbourne.[68]

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[63] Derives from the study made by the National Office for the Information Economy and Asia-Pacific Smartcard Forum. *Available at* <http://www.smartcard.asn.au> last visited July 2005.

[64] For example, in 2004, RailCorp has spent AUD 60 million on equipment, which included new ticket gates to cope with the transport smart card. This is in addition to AUD 338.7 million cost of delivering the smart card for public usage. *Available at* 'Smart Card Project in Sydney - Sydney Morning Herald Online' <http://www.smh.co.au/article/2004> last visited July 2005.

[65] Translink is a contactless smart card where customers will have to touch their card to a card reader at the start and of each leg of their journey and the correct fare will be deducted. *Available at* 'Translink Smart Card System' <http://www.translink.co.au/TransLinkSmartCardSystem> last visited July 2005.

[66] *Ibid.*

[67] *Available at* 'Metcard' <http://www.railway.org.au/metcard> last visited July 2005.

[68] *Available at* 'Department of Infrastructure – Track Record Monthly Bulletin' <http://www.doi.vic.gov.au> last visited July 2005.

(b) E Com Card

Various card schemes have been operated by E Com Industries, a private company established in 1998.[69] The most popular scheme has been the Merchant Gift Card, which enables the merchants and shopping centres to replace the paper gift voucher with automated store payment, reconciliation, reporting and fulfilment.[70] Another scheme, the Incentive Card, enables rewards to be given to staff, suppliers and selected customers where the reward programme can be processed electronically.[71]

4. Hong Kong

Hong Kong's development of electronic money schemes has been encouraging, especially for stored-value card.[72] However, only the Octopus Cards have been widely circulated. Schemes such as the Visa Prime Cash Card[73] and i-Life Card[74] have not been as successful.[75]

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[69] *Available at* 'About E Com Industries' <http://www.ecomindustries.com.au/about.asp> last visited July 2005.

[70] *Available at* 'About E Com Industries - Products' <http://www.ecomindustries.com.au/product.asp> last visited July 2005.

[71] *Ibid.*

[72] Based on the reports by BIS in 'Survey of Electronic Money Developments' in 2000 (n 22) and 2001 (n 22) and 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[73] Prime Visa Cash was the first multipurpose stored-card introduced in Hong Kong. Based on the 2002 report, nine banking groups in Hong Kong issue the electronic money under this scheme. These cards are available both as disposable and reloadable cards. *See* EMEAP Working Group on Payment and Settlement Systems 'Payment Systems in EMEAP Economies' EMEAP July 2002. <http://www.emeap.org:8084> last visited June 2004

[74] *Ibid.* i-Life Card was launched in 2000 by Hong Kong and Shanghai Bank and a telecommunication company. It is a multifunctional card with credit, debit and electronic cash chip features.

[75] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

The Octopus Card is a contactless smart card technology, developed and issued by Octopus Card Limited,[76] formerly known as Creative Star Limited, a company jointly owned by transport operators, and used for payment of transport services.[77] Octopus card initially did not come within the purview of the Hong Kong Banking Ordinance. The Hong Kong Monetary Authority (HKMA) was of the view that since the card offers a restricted range of services, the risks to the payment system and cardholders were slight.[78]

However, this scheme is now within the purview of the Banking Ordinance and the company is authorised as a special purpose deposit-taking company. The consumers are now allowed to use the card for a wider range of uses.[79] This scheme is the most successful scheme in Hong Kong where as of first quarter of 2005, nine million cards were in circulation.[80] Around six million transactions per day have been recorded and there are 23,000 terminals available which accept the Octopus card.[81]

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[76] *Available at* 'Octopus Card' <http://www.octopuscards.com/eng/customer/aavs.jsp> last visited July 2005.

[77] *Ibid.*

[78] It should be noted that even though the HKMA considered that it is of limited use, the card could also be used to pay for goods and services provided by shops and kiosks within the station premises. However, these is regarded by the HKMA as ancillary or incidental uses, and were limited to 25% of the value of all transactions carried out with the card. *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[79] *Ibid.* The non-core use is 50% of the value of total uses. The card now can be used in various outlets, including vending machines, ticketing machines, convenience stores, fast food chains, bakery shops, public swimming pools and public recreational centres. The card can load up to HKD 1,000 and value can be loaded at designated terminals within the station premises and some retail outlets.

[80] *Available at* 'Octopus Card'<http://www.octopuscards.com/eng/customer/aavs.jsp> last visited July 2005.

[81] *Ibid.*

5. Singapore

The development of electronic money in Singapore is continually progressing. In fact, the Government of Singapore has plans to implement electronic money as a legal tender and this effort has been underway for several years and continues to make progress towards the realisation of this objective by 2008.[82]

Singapore only allows banks to issue multipurpose stored-value cards.[83] There are two reported multipurpose stored-value card schemes, which have been successfully implemented.[84]

The success of the multipurpose card scheme in Singapore is partly due to the fact that the public do not have a choice as to the method of paying congestion charges[85] on certain roads in Singapore and also for toll payments for crossing the border to Malaysia.[86] All foreign registered vehicles entering Singapore have to use the Autopass Card.[87] Stored-value cards are also the only method for foreigners to make payment for

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[82] *See* Akindemovo OE 'The Pervasive Influence of Anti-Terrorist Finance Policy: Post 9/11 Non-Bank Electronic Money Issuance' 19(8) *Journal of International Banking Law and Regulation* 289-297 (2004).

[83] Provided for in the Singapore Banking Act. However, there is no provision in the legislation on the status of network electronic money as to who can issue the scheme.

[84] *See* 'EZ-Link Card' <http://wwwezlink.com.sg> and <http://www.nets.com.sg> last visited July 2005.

[85] The congestion charges started in June 1999 where all motorists who pass through an operational Electronic Road Pricing gantry will have to pay a certain charge. This payment is made through the insertion of only one particular product of multipurpose stored-value card into the in-vehicle unit or IU. Electronic Road Pricing is an electronic system of road pricing where no paper coupons or enforcement officers are needed to monitor the vehicles. The value of the multipurpose stored-value card is inserted in the IU in the vehicle, and will be automatically deducted as the vehicle passes the Electronic Road Pricing gantry. *Available at* <http://www.Ita.gov.sg/4_TrvlSmrt_Across.htm> last visited July 2005.

[86] Currently there are two checkpoint borders to enter Malaysia from Singapore. All Singapore registered vehicles have to use the multipurpose stored-value cards to pay tolls for arrival and departure from Tuas Checkpoint, and only departure to Singapore at Woodlands checkpoint. *Available at* <http://www.Ita.gov.sg/4_TrvlSmrt_Across.htm> last visited July 2005.

[87] Drivers of foreign registered vehicles have to purchase a stored-value card, *i.e.* the Autopass Card, at the cost of SGD 10, comprising of SGD 4 cash value preloaded into the card and SGD 6 card cost, which is non-refundable. *Available at* <http://www.Ita.gov.sg/4_TrvlSmrt_Across.htm> last visited July 2005.

the Electronic Road Pricing,[88] Vehicle Entry Permit fees[89] and toll payments for border crossing.

(a) NETS CashCard

The NETS CashCard[90] was introduced in 1996[91] by Network for Electronic Transfers (Singapore) Pte Ltd,[92] a consortium of five local banks.[93] The CashCard features are made available to some debit cards issued for the purpose of electronic fund transfer at EFTPOS terminals.[94] The NETS CashCard transactions are also available at ATM machines.[95] Besides paying for Vehicle Permit Entry, Electronic Road Pricing and tolls at the border checkpoints between Singapore and Malaysia, NETS CashCard can also be used at various places such as car parks, public phones, libraries and vending machines. The value can be downloaded through ATM machines, selected petrol kiosks, selected banks with auto lobby facility and convenience stores.[96] Singapore has made

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[88] As the use of stored-value card is the only way of making payment for Electronic Road Pricing, foreigners with vehicles entering Singapore have to rent a temporary IU, which may be rented at any one of the IU rental shops. *Available at* <http://www.Ita.gov.sg/4_TrvlSmrt_Across.htm> last visited July 2005.

[89] The Automated Vehicle Entry Permit was implemented on 1 April 2000. This is where all foreign registered vehicles have to pay daily fees of SGD 30 for cars and SGD 4 for motorcycles (excluding Saturdays, Sundays and Singapore public holidays) upon entering Singapore. *Available at* <http://www.Ita.gov.sg/4_TrvlSmrt_Across.htm> last visited July 2005.

[90] The cost of purchasing the NETS CashCard is SGD 22, inclusive of a refundable deposit of SGD 2. *Available at* <http://www.Ita.gov.sg/4_TrvlSmrt_Across.htm> last visited July 2005.

[91] *Available at* 'About NETS CashCard' <http://www.nets.com.sg/about.asp > last visited July 2005.

[92] *Available at* 'Network for Electronic Transfers (Singapore) Pte Ltd' <http://www.mas.gov.sg> last visited July 2005.

[93] The local banks involved are Development Bank of Singapore, Keppel TatLee Bank, Overseas-Chinese Banking Corporation, Overseas Union Bank and United Overseas Bank. *Available at* 'About NETS Cash Card' <http://www.nets.com.sg/about/asp> last visited July 2005.

[94] *Ibid.*

[95] *Ibid.*

[96] *Available at* 'Counter and Kiosk of NETS' <http://www.nets.com.sg/consumers/using_cashcard.asp> last visited July 2005.

much progress on NETS CashCard and since it launch, has issued six million cards.[97]

(b) EZ-Link Card

The EZ-Link is a multipurpose stored-valued card with contactless smart card technology.[98] Citibank NA is the issuing bank for this card and EZ-Link Pte Ltd[99] is responsible for the sale, distribution and management of the card.[100]

This scheme was introduced in 2002 and as at the end of 2004, six million cards were in circulation, with over four million financial transactions being processed. This card can be used for the public transport network and some retail transactions.[101] Together with the NETS CashCard, Ez-Link Card can also be used to make toll payments at the immigration and checkpoints borders points between Singapore and Malaysia.[102]

III Criteria for a Workable Electronic Money Scheme

The evolution of new electronic retail payment systems is taking place in two forms. First, the development of new features to the existing retail payment system, such

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[97] Figure as at end of 2004. *Available at* <http://www.nets.com.sg/about.asp> last visited July 2005. Notably, the NETS CashCard transactions reached SGD 102 million in 2001 and SGD 115 million in 2003. The transaction value increased from SGD 212 million to SGD 239 million over the same period for the total of SGD 174 million.

[98] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[99] This company is a subsidiary of the Land Transport Authority and was formed in 2002. *Available at* <http://wwwezlink.com.sg> last visited July 2005.

[100] *Ibid.*

[101] *Ibid.* The card circulation figures quoted are as at first quarter of 2004 where besides for payment on public transport, cards can be used at selected cafes, McDonald's restaurants and certain supermarkets.

[102] *Ibid.*

as the credit cards,[103] and second, a new payment instrument is created to make payment in the real world[104] as well as via the Internet.[105] Electronic money[106] is an example of the latter created as a result of the emerging new technology in the ICT environment.[107]

Electronic commerce has not affected the business-to-business payment transactions because such transactions continue to use existing electronic payment mechanisms such as corporate credit cards and electronic fund transfers.[108] Emerging economies that are developing new payment instruments such as electronic money have to ensure to attract and benefit individuals such as the consumers and merchants, rather than business.

In Malaysia, Singapore and Hong Kong, the existing retail payment systems have reached an advanced stage with various methods of payment available.[109] As such, the introduction of a new payment instrument is a challenge to both service providers and the government because it would be difficult to gain public acceptance when they are already comfortable with the existing methods of payment.[110]

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[103] New security features, such as Secure Electronic Transaction (SET) protocol, were developed by Visa International and Mastercard International to make credit card payments via the Internet more secure. *See* Chapter 2 section II under C.

[104] Such as stored-value cards, electronic money schemes. *See* section II under A.

[105] Such as network money, electronic money schemes. *See* section II under A.

[106] Both stored-value cards and network money schemes.

[107] Electronic money schemes were introduced in the early 1990s and have been developing actively since 1996 when much research was done. The BIS has shown interest in the development of electronic money since the issuance of their reports such as 'Security of Electronic Money' (n 7) and 'Implications for Central Banks of the Development of Electronic Money' (n 12). BIS has also conducted surveys on the developments of electronic money in various countries, the latest in 2004. *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[108] *See* Miller S 'Payment in an On-Line World' in Edwards L and Waelde C (eds) *Law & the Internet – A Framework for Electronic Commerce* (2nd edn Hart Publishing Oxford-Portland Oregon 2000) 55, 56-57.

[109] See Chapter 2 section II under E.

[110] Traditional methods of payment such as cash and credit card remain popular because of consumers' 'die hard' preference of payment. *See* Chapter 2 section II under C on this discussion and for data on the issuance of credit and debit cards in these emerging economies.

Electronic money schemes present many advantages and disadvantages.[111] Even though the acceptance of electronic money has been generally slow, it has the potential to grow, as has been demonstrated in certain countries.[112] To gain the support of the public, it is essential that certain features are included.

A. Complementing the Existing Retail Payment Services

The advantages of using the electronic money schemes product must be clearly demonstrated and noticeable by the users. Electronic money schemes must complement the electronic retail payment systems in the country, rather than replace traditional payment methods such as cash by providing a safe and secure alternative.[113]

B. Ability to Make Micro Payment

The Internet creates a new market for goods and services such as the sale of small amounts of online information. This includes the sale of access to computer games, information databases such as copies of journals, newspapers and magazine articles, and

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See also Tether T 'Payment Systems for E-Commerce' in Reed C, Walden I and Edgar L (eds) *Cross-Border Electronic Banking – Challenges and Opportunities* (2nd edn Lloyds of London Press London 2000) 167, 171 on consumers' preference to use credit card.

[111] Many have discussed the disadvantages of electronic money schemes such as stored-value cards. It has been argued that unlike credit or debit cards, the consumers will not earn any interest from the moment they load the value in the stored-value card as the settlement is immediate like cash transactions. A third party, however, gets the float, which is normally the card issuer, the moment the money is loaded and not spent. Other disadvantages include the expiry date of stored-value cards, invasion of privacy, card issuer insolvency and defects of the card. *See The New Virtual Money: Law and Practice* (n 17) 311.
It has also been argued that technology changes also affect the acceptance of both users and industries that want to develop electronic money schemes. The progress, even though for the betterment of the scheme, can be disconcerting and will cloud rather than clarify the future, creating incentives to wait for the next round of improvement. *See* Hayes DG, Gillespie JFE, Daly PH, Grippo G, Johnson PJ 'An Introduction to Electronic Money Issues - Towards Electronic Money and Banking: The Role of the Government' Paper prepared for the United States Department of the Treasury Conference in Washington DC United States on 19 – 20 September 1996. *Available at* <http://www.occ.treas.gov> last visited November 2001.

[112] *See* section II under D - 4 and 5.

[113] *See The New Virtual Money: Law and Practice* (n 17) 60.

downloading music tracks.[114] A stored-value card with a readable device on personal computers[115] would be attractive to consumers who wish to make payment online for small value information gained via the Internet. Payment for such small values may not be catered for by a credit card, as the processing costs charged to merchants would make it uneconomical.[116] The transaction costs would exceed the price of the micro purchase.[117] Electronic cheques are also not practical for this type of purchase because it will take time for the electronic cheques to be cleared and the consumers would not want to delay the purchase of the services.[118]

C. Cost Saving

Electronic money schemes must also be made available for the disbursement of payments at various shops and vending machines. Their use must be seen to be more convenient than using coins as exact change is not needed. The ability to make payment for public transport, parking or toll services through stored-value cards would also make it more attractive.[119]

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[114] *See* Edgar L 'Electronic Money' in *Cross-Border Electronic Banking – Challenges and Opportunities* (n 110) 201, 220.

[115] Current technology has made it possible for personal computers to have readable devices to read stored-value cards to cater for online payment. *See* 'The Effect of Technology on the EU Banking Systems' (n 42).

[116] *See* 'Payment in An On-Line World' in *Law & the Internet – A Framework for Electronic Commerce* (n 108) 55, 75.

[117] The payment instruction has to be authorised, processed by the merchant acquirer, fulfilled by payment from the card issuer to the merchant acquirer, invoiced to the customer by the card issuer and recovered by the card issuer from the customer. All of this processing has to be paid for and that cost recovered from the merchant or the customer. *See* Tether T 'Payment Systems for E-Commerce' in *Cross-Border Electronic Banking – Challenges and Opportunities* (n 110) 167, 174.

[118] *See* Konvisser JB 'Coins, Notes and Bits: The Case for Legal Tender on the Internet' 10 *Harvard Journal of Law & Technology* 321 (1997).

[119] *See* Tether T 'Payment Systems for E-Commerce' in *Cross-Border Electronic Banking – Challenges and Opportunities* (n 110) 167, 181.

Electronic money schemes may be attractive to merchants since the cost of processing and accounting of the cash, storage, transport and security would be much lower compared to handling cash, *i.e.* notes and coins.[120] Merchants can also enjoy cost savings with funds more quickly processed and made available. If the scheme works efficiently, it can also increase sales and mean less labour due to faster checkout counters, as consumers will prefer to use self-service transactions.

D. Avoidance of Exceeding Credit Limit/Reducing Risks

Stored-value cards are prepaid in nature and this prevents consumers from exceeding their credit limit.[121] The BIS has commented that electronic money schemes pose less risk to the consumer than any other forms of payment because they have a lower risk of refusal than a credit card.[122] Besides the risk of lack of funds, the credit card could also be refused by merchants due to matters such as the expiry date of the card.

Merchants cannot refuse electronic money payments[123] unlike payments made by personal cheques.[124] Cheques require clearing preventing the settlement from being instantaneous. Even if cash is used, there is the risk of merchants refusing to make change for currency.[125]

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[120] *See* 'An Introduction to Electronic Money Issues - Towards Electronic Money and Banking: The Role of the Government' (n 111).

[121] This applies to both hardware electronic money schemes such as stored-value cards and software electronic money scheme such as network money.

[122] *See* 'Electronic Money – Consumer Protection, Law Enforcement, Supervisory and Cross Border Issues' (n 15).

[123] This is provided that the merchant is one of the participating merchants in the electronic money scheme and has installed all the necessary equipment, which includes having an electronic money terminal, and stored-value card reader for the purpose of accepting electronic money transactions.

[124] *See* 'Electronic Money – Consumer Protection, Law Enforcement, Supervisory and Cross Border Issues' (n 15).

[125] *Ibid.*

E. Boosting Consumer Confidence

Electronic money schemes have the capability of boosting confidence to online shopping.[126] Even though credit and debit cards can be used to make online payments, consumers may be reluctant to do so because information of the card has to be passed over the Internet and this could lead to abuse by other parties. Electronic money schemes also provide better safety and security, which would reduce theft and vandalism.[127]

Stored-value cards reduce the risk of fraud compared to credit or debit cards because they have tamper resistant chips and strong cryptographic protocols compared to credit and debit cards with a magnetic strip. It is also possible to have biometric verification on the stored-value card to enhance the security features of the card and also eliminate theft.[128]

F. Less Processing Requirement

Electronic money schemes involve less processing for their issuance, as credit checks are not carried out. There is no risk of consumers not being able to complete their transactions and settle their payments before they become insolvent.[129]

G. Value Added Services

The technology involved in the electronic money schemes would make it possible for merchants to trace back their consumers who have made payments. This could be a

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[126] *See* 'Payment in An On-Line World' in *Law & the Internet – A Framework for Electronic Commerce* (n 108) 55, 75. Stored-value card can also be used to make payment online if the personal computers have a readable device to read the card. *See* 'The Effect of Technology on the EU Banking System' (n 42).

[127] *See* 'An Introduction to Electronic Money Issues - Towards Electronic Money and Banking: The Role of the Government' (n 111).

[128] *Ibid.*

[129] *See* 'Payment in An On-Line World' in *Law & the Internet – A Framework for Electronic Commerce* (n 108) 55, 75.

benefit to the merchants as it could sharpen their value added services and relationship with their customers.[130] For example, the retailer could track customers' activities and buying patterns and offer buyer specific discount and loyalty programmes. This targeted promotion, which is also known as micro marketing, is considered more efficient than mass marketing.[131]

Technology is also in place for electronic money schemes such as stored-value cards to hold multi-currencies. Such development would be beneficial for countries such as Malaysia and Singapore that share borders where consumers are keen to cross the border to purchase goods and services.

IV Issues of Electronic Money

This section discusses the regulation of electronic money schemes in developed countries[132] and emerging economies.[133] For the purpose of this section, regulation means the regulatory framework that the governments of these countries impose on the system operators or the issuers of electronic money. A comparison will then be made between the approaches taken by developed countries and emerging economies.

It is often questioned whether electronic money should have a comprehensive regulatory framework. This question has been prompted because electronic money is still developing and most schemes are still operating on a small scale or within a specific

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[130] However, it should be noted that there are arguments against the fact that information on the consumer can be tracked as this is regarded as an invasion of privacy. It has been argued that privacy would mean that one's history of purchase is not available for inspection. Arguments have also gone further to suggest that even banks, credit card companies and also the government cannot conduct inspection. *See* L Law, S Sabett and J Solinas 'The Electronic Future of Cash: How to Make a Mint: the Cryptography of Anonymous Electronic Cash' 46 *The American University Law Review* 1131 (1997).

[131] *See* 'An Introduction to Electronic Money Issues - Towards Electronic Money and Banking: The Role of the Government' (n 111).

[132] Selected developed countries such as the United States, the United Kingdom and Australia.

[133] Singapore and Hong Kong's regulatory framework of electronic money will be discussed in this section. Malaysia's approach will be discussed in Chapter 4 section III under B.

sector,[134] hence any regulation may be premature. This argument has been put forward based on studies made on various stored-value card products.[135] Each different stored-value card product has a different technology making it difficult to regulate stored-value cards based on the technology. This could also force the market to adopt only certain kinds of technology.[136]

Regulation would be more difficult if the provisions were applicable to both card and network-based[137] electronic money schemes. Nevertheless, as technology develops, the distinction between card-based and network-based electronic money scheme is becoming blurred because current technology has made it possible for personal computers to have readable devices to read stored-value cards.[138] Payment can be made via the Internet using card-based electronic money schemes this way.

The lack of experience of the legislator in providing relevant provisions on regulation is another issue. Even though the intention to regulate is to protect public interest, regulation should not be introduced if its enforcement could stifle further development and innovation. As such, at which stage the government should intervene and in what form needs to be carefully considered.[139]

Since electronic money schemes were introduced as another mode of making payment, countries have taken different approaches towards their regulatory framework. Even though there is no standard regulatory framework for electronic money, it is clear

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[134] For example, stored-value cards have been successful in the transportation sector, which includes payment for public transportations, toll payments and congestion charges. *See* section II under D.

[135] *See* Plotkin ME and Albert EJ 'Smart Cards – Why Regulation is Premature' 12 *Journal of International Banking Law* 459-462 (1997).

[136] *Ibid.*

[137] For the definition of network-based electronic money, *see* section II under A.

[138] *See* 'The Effect of Technology on the EU Banking Systems' (n 42).

[139] *See* 12 *Journal of International Banking Law* 459-462 (1997) (n 135).

that most countries agree that even if the development of electronic money is slow, regulation is still important.

A. The United States

When electronic money attracted much attention, especially around 1996 and 1997, the United States was quick to suggest that electronic money does not need regulation and should rely on private market, self-regulation. The role of the government should only be to ensure that the effective risk management systems are in place in the private sector.[140] In order to foster financial innovation, there must not be rules that inhibit improvement. It is even suggested that as the financial systems become more complex, detailed rules and standards will become burdensome and ineffective. Electronic money was quoted as a product that should not have any impediment from government rules.[141]

The United States also argues that private sectors need to have the flexibility to experiment without interference from the government. For example, the Chairman of the Federal Reserve Board (FRB) stated that government intervention in the Automated Clearing House (ACH) has to some extent slowed down its development.[142] In developing the ACH, the FRB took the leading role. Even after 20 years, automation is allowed only for some important types of payments. The ACH has never been widely used by consumers.[143] It is suggested that the failure is because the government under-estimated the preference of the consumers, the costs involved and the difficulty in

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[140] *See* Greenspan A 'Regulating Electronic Money' Paper by Chairman of the Federal Reserve Board at United States Treasury Conference on Electronic Money & Banking: The Role of the Government in Washington D.C. on 19 September 1996. Article also in A Greenspan 'Fostering Financial Innovation: The Role of the Government' in Dorn JA (ed) *The Future of Money in the Information Age* (Cato Institute United States 1997) 45-50.

[141] *Ibid.*

[142] *Ibid.*

[143] *Ibid.*

building a broad based infrastructure.[144] It is also suggested that because the government only supported one particular technology for the ACH, it has slowed down the effort by the private sector to develop alternative technologies.[145]

The stand taken by the Chairman of the FRB is also consistent with the broad policy on electronic commerce presented by President Clinton in 1997.[146] The Framework issued by the President of the United States at that time stated several principles for consideration. One of the principles was that the private sector should take the lead to ensure innovation and expansion of services, broader participation and assurance of lower price for the consumers.[147] In encouraging self-regulation, the role of the government should only be to support the private sector and not to intervene in the form of regulation. Regulation is seen as a distortion to development, decreasing supply and raising the cost of the products and services to consumers.[148] The Framework even went so far as to suggest that the government should refrain from imposing new and unnecessary regulations, bureaucratic procedures, taxes and tariffs.[149] However, it was also acknowledged that at some point, especially in order to protect consumers and to facilitate electronic commerce, government might have to intervene.[150] The Framework suggested that intervention in this situation should be in the form of a simple legal environment, based on a decentralised, contractual model law rather than top-down regulation.[151]

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[144] *Ibid.*

[145] *Ibid.*

[146] *See* Clinton B 'A Framework for Global Electronic Commerce' The White House 1997. *Available at* <http://www.ecommerce.gov.framework.html> last visited in August 2001.

[147] *Ibid.*

[148] *Ibid.*

[149] *Ibid.*

[150] *Ibid.*

[151] *Ibid.* Intervention from the government should be with the aim of ensuring competition, protecting intellectual property and privacy, preventing fraud, fostering transparency, supporting commercial transaction and facilitating dispute resolution.

The Framework also recognised that with the development of the Internet, new payment instruments such as electronic money would need to be enhanced.[152] Since this product is still at a developing stage, the commercial and technological environment is still changing. Based on this, policies would be difficult to predict, and inflexible and highly prescriptive regulations would be inappropriate and harmful. The Framework suggested that case-by-case monitoring would be more useful.

Even though a self-regulation approach is suggested, the United States also foresees the problem of self-regulation because it cannot accommodate all issues in the long term. Government action may be needed to ensure the safety and soundness of electronic payment systems, to protect consumers or to respond to important law enforcement objectives.

Attempt has been made to regulate stored-value cards through a proposal to amend Regulation E Electronic Fund Transfer.[153] Regulation E addresses consumer protection issues promulgated pursuant to the Electronic Funds Transfer Act.[154] The FRB published a proposal to amend Regulation E to accommodate stored-value card schemes and to cover the various schemes available.[155] The proposed amendment distinguishes between stored-value card schemes, which access a consumer's account to another scheme, from those that do not have access to a consumer's account. The proposed

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[152] *Ibid.* Electronic money is part of the payment instruments that were recognised as new electronic payment systems in making payment via the Internet under the Framework.

[153] 12 CFR 205, as amended effective May 1, 1996.

[154] Regulation E section 205.1 on Authority and Purpose states: -

> (a) *Authority.* The regulation in this part, known as Regulation E, is issued by the Board of Governors of the Federal Reserve System pursuant to the Electronic Fund Transfer Act (15 USC 1693 et seq.) ……..
>
> (b) *Purpose.* This part carries out the purpose of the Electronic Fund Transfer Act, which establishes basic rights, liabilities, and responsibilities of consumers who use electronic fund transfer services and of financial institutions that offer these services. The primary objective of the act and this part is the protection of individual consumers engaging in electronic fund transfer.

[155] *See* Electronic Fund Transfers, 61 Fed. Reg. 16696, 197000 – 01 (1996) proposed in May 1996.

amendment to Regulation E gives different levels of protection to the consumers based on the type of card used.[156]

Generally, the proposal includes the following: -

i. All provisions of Regulation E applicable to online[157] stored-value cards;
ii. Limited provisions of Regulation E applicable to offline[158] accountable cards;
iii. Total exemption of Regulation E to offline unaccountable cards; and
iv. Total exemption of Regulation E to all stored-value cards online or offline, which cannot carry more than USD 100 at any one time.

However, Congress in 1996 directed FRB to conduct a further study to determine whether the Electronic Fund Transfer Act could be applied to stored-value card systems without adverse impacts on the cost, development, and operation of stored-value cards.[159] The report was completed in 1997[160] but the proposal to amend Regulation E on stored-value cards has not take place.[161]

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[156] *See* Electronic Fund Transfers, 61 Fed. Reg. 16696, 19696 – 19698 (1996) proposed in May 1996.

[157] 'Online' means that the card is used at an ATM or point of sale terminal, the transactions are authorised by means of online communication with the data facility, where the transaction data are stored and the balance information is maintained in the data facility and not in the card itself. *See* Electronic Fund Transfers, 61 Fed. Reg. 16696, 19699 (1996) proposed in May 1996.

[158] 'Offline' means that the stored-value card can have accountable or unaccountable systems. An offline accountable system is where the information concerning the balance of the funds available is recorded both on the card and at the central data facility. In an offline unaccountable system the balance of the funds data is only on the card, and there is no central database. *See* Electronic Fund Transfers, 61 Fed. Reg. 16696, 19699 (1996) proposed in May 1996.

[159] The report issued by FRB examined the cost and benefits of various regulatory alternatives, but did not endorse or recommend any specific course of action. *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[160] FRB seeks comments from the public on the proposal but does not take any further action upon completion of the report to Congress. *Available at* 'FRB Proposal to Comments' <http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm> last visited July 2005.

[161] *Available at* 'FRB: Press Release – Banking and Consumers Regulatory Policy' <http://www.federalreserve.gov.broaddocs/press/bcreg/default/htm> last visited July 2005.

One of the debates during on amending Regulation E was that the Regulation already covered most stored-value card schemes involving debiting and crediting the customers' account.[162] Thus, Regulation E already addressed many of the legal issues that arose when consumers used the stored-value cards including initial disclosure to the consumers of the terms and liabilities associated with the use of the cards, the necessity of providing periodic statements and receipts, and the procedure available for resolving claims and error.[163]

Another argument is whether the value in the stored-value card is redeemable. If it is redeemable, then it can be subject to Regulation E as the financial institutions have obligations towards the holder.[164] However, if it is not redeemable, then Regulation E is not applicable.[165] The argument is that since consumers generally have vague knowledge about the kind of cards they possess, they would be unable to know their legal rights and the benefits of having the cards and whether they are protected under Regulation E or not.[166]

There are also uncertainties regarding smart cards, which have multiple applications.[167] It is unclear whether these smart cards need to comply with the multiple regulatory frameworks that may be applicable.[168] Critics have also focused on the suggestion that amendments to Regulation E shall not cover stored-value cards whose

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[162] *See The New Virtual Money: Law and Practice* (n 17) 315.

[163] *Ibid.*

[164] *Ibid.*

[165] *Ibid.*

[166] *Ibid.*

[167] *Ibid* 319. Besides having a stored value application, smart cards can also have other applications such as banking, health care or telecommunications applications.

[168] *Ibid.* Multiple functions smart cards, which have banking, health and telecommunications, may have to comply with various regulatory issues imposed by separate authorities related to each of the applications.

maximum value does not reach USD 100.[169] The criticism is based on the fact that if this were the case, Regulation E will exempt reloadable stored-value cards whereby cards not having USD 100 in value, can still be reloaded at any time.[170] It is also suggested that consumers will not be protected in a situation where consumers purchase various cards with each card not exceeding USD 100 in value, but in total representing hundreds of dollars or more.[171]

Even though there has been no action taken by FRB on the report to Congress on stored-value card in relation to amendment to Regulation E, FRB continues to monitor the developments and issues concerning the product.[172]

More recently, attempts have been made to impose some kind of regulation on electronic money schemes. The National Conference of Commissioners on Uniform State Laws has enacted the Uniform Money Services Act 2000.[173] Even though this is a uniform law where each state has to legislate it before it can be enforced in that state, it is nevertheless a step towards the direction in recognising some kind of regulation for electronic money schemes.[174] As of this date, states such as Washington, Vermont, Iowa and the United States Virgin Island have adopted the Uniform Money Services Act 2000.[175]

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[169] *Ibid.*

[170] *Ibid.*

[171] *Ibid.*

[172] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 4).

[173] *Available at* 'National Conference of Commissioners on Uniform State Laws' <http://www.nccusl.org> last visited June 2003.

[174] *See* Prefatory Notes under section A on 'Goal and Objectives' of the Uniform Money Services Act 2000 which was made available at 'National Conference of Commissioners on Uniform State Laws Annual Conference Meeting in St. Augustine Florida on 28 July – 4 August 2000.

[175] Based on the fact sheets of the 'United States Uniform Act', which is continuously being updated. *Available at* 'Uniform Law Commission – Uniform Money Services Act (2000)' <http://www.nccusl.org/nccusl/uniformact_factsheets> last visited July 2005.

The Uniform Money Services Act covers traditional money services businesses such as money transmission, cheque cashing and currency exchange, which is carried out without an established banking relationship.[176] Companies such as these provide cashing of cheques or transferring of funds via wire transfer.[177] This law provides that a person may not engage in specific regulated activities such as money transmission, cheques cashing and currency exchange unless he or she holds a qualified licence or is an authorised delegate of a person holding a qualified licence.[178]

The Uniform Money Services Act 2000 has extended its scope to include stored value and other Internet based payment mechanisms.[179] It has been argued that several states have taken the position that the transfer of money over the Internet or the use of an electronic payment instrument is equivalent to money transmission or the sale of physical payment instruments.[180] The Internet payment services have been viewed as the equivalent of traditional money services because they are also non-depository providers of financial services.[181] It is also argued that Internet-related payment companies accept consumers' funds for transmission to third parties in the same way that traditional money services accept funds.[182]

Even though the Uniform Money Services Act is adopted by some states, there is no uniformity in the application of the Act. As and when the states adopt the Act, the

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[176] *See* Taft JP 'Uniform Money Services Act Covers Stored Value and Other Internet-Based Payment Mechanisms' Mayer Brown & Platt, August/September 2000.
Available at <http://www.securitization.net/knowledge/legal/uniform.asp last visited May 2003.

[177] *Ibid.* Company such as the Western Union.

[178] *See* Uniform Money Services Act 2000 under Article 2 for money transmission licenses, Article 3 for cheque cashing licenses, and Article 5 for authorised delegates.

[179] *See* Uniform Money Services Act 2000 Prefatory Note (n 174) under section B paragraph 3 on 'Expansion of the Term Money-Services Business to Include Internet-Related Payment Mechanisms and Cyberpayments'.

[180] *Ibid.*

[181] *Ibid.*

[182] *Ibid.*

licensing regime would be different in each particular state that adopts it. It is stated in the comments[183] made under the Act that the licensing requirements refer to the money transmission that would take place within that state. What constitutes as 'engaging in the business' within a particular state is typically defined through case law relating to that state.[184]

B. The European Union (EU)

The EU has taken the view that there should be a comprehensive and harmonised regulatory framework for the issuance of electronic money among its member states. The legal framework has been divided into two Directives *i.e.* the European and Council Directive 2000/46/EC on the taking up, pursuit and prudential supervision of the business of electronic money institutions, and the European and Council Directive 2000/28/EC amending Directive 2000/12/EC relating to the taking up and pursuit of the business of credit institutions. The implementation of both Directives in all member states took place in April 2002.[185]

It is stated in the Directive[186] that the purpose of the new legal framework is to assist electronic money in delivering its full potential benefits and to avoid hampering the technology and innovation. Based on this policy, the Directive is technologically neutral and harmonises the prudential supervision of electronic money institutions.[187] Even though the said Directive claims that it is technologically neutral, the provisions include specific requirements that must be adhered to by the institutions that issue the electronic

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[183] *See* Uniform Money Services Act 2000 Article 2 on the comments made.

[184] *Ibid.*

[185] Directive 2000/46/EC under Article 10 paragraph 1.

[186] Directive 2000/46/EC under preamble paragraph (5).

[187] *Ibid.*

money. There is a capital requirement of EUR 1 million imposed[188] where their investment must be no less than their financial liabilities relating to the outstanding electronic money.[189] The institutions are also restricted in types of investments they may hold. There is also the requirement that the bearer of the electronic money is entitled to redeem it in coins and banknotes free of charge.[190]

The Directive[191] on electronic money that was issued in 2000 was a product of EU efforts since 1994. The then European Monetary Institution issued a report on prepaid cards in 1994,[192] which later was complemented by an opinion of the European Monetary Institute Council on the issuance of electronic money in 1998.[193] This opinion even extends the scope of electronic money to include network money.[194]

The report in 1994 differs in opinion from that in 1998. In the 1994 report, it was proposed that the issuers of the electronic money should only be credit institutions. However, since this is not the practice by member states, the 1998 report amended this provision and stated that regardless of who the issuer of electronic money is, whether they are credit institutions or not, both must meet certain requirements.[195]

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[188] Directive 2000/46/EC under Article 4 paragraph 1.

[189] Directive 2000/46/EC under Article 5 paragraph 1.

[190] Directive 2000/46/EC under Article 3 paragraph 1.

[191] Directive 2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit of and prudential supervision of the business of electronic money institutions.

[192] *See* 'Report of the Council of the European Monetary Institute on Prepaid Cards' Working Group on EU Payment Systems 1994. *Available at* <http://www.iang.org/money/EU_prepaid_cards.html> last visited December 2001.

[193] *See* '1997 Annual Report of the European Monetary Institute' and 'Chapter III.2 of the 1997 Annual Report of the European Monetary Institute'. *Available at* <http://www.ecb.int/emi/pub/pdf/en_ar97.pdf> and <http://www.systemic.com/docs/papers/EMI_1998_opinion.html> last visited December 2003.

[194] *Ibid.*

[195] *Ibid.*

The issue on who should be the issuer of electronic money was further reported in the European Central Bank Report on Electronic Money in 1998.[196] It recognised that there should be a level playing field[197] between the players whether they are credit institutions or not and made a proposal 'so as to include all issuers of electronic money in the definition of credit institutions along with institutions which receive deposits or other repayable funds from the public and grant credit for their own account'.[198]

The European Commission in proposing the 2000 Directive[199] stated that the reason as to why electronic money issuers must be regulated is based on the fact that both the interest of the consumers and businesses must be protected.[200] There must be a regulatory environment that instils trust and confidence in the new and developing instruments like electronic money.[201] The regulatory environment must also not impede the development and must be allowed to take place unimpaired by strict technological rules, which will hamper innovation and restrict competition.[202]

Under the Directive,[203] all the issuers of electronic money are brought within the

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[196] *See* 'Report on Electronic Money' European Central Bank 1998. *Available at* <http://www.ecb.int> last visited December 2003.

[197] It should be noted that even in the 1994 report, the European Monetary Institute cautioned that there would not be a level playing field between the banks and non-banks as issuers of electronic money, if both are not subject to the same prudential regulation. *See* 'Report of the Council of the European Monetary Institute on Prepaid Cards' (n 192).

[198] *Ibid.*

[199] Directive 2000/46/EC

[200] *See* Explanatory Memorandum of the Commission Proposal for European Parliament and Council Directives on the Taking Up, the Pursuit and the Prudential Supervision of the Business of Electronic Money Institutions. *Available at* <http://www.ecu-activities.be/document/commission-proposal.html> last visited December 2002.

[201] *Ibid.*

[202] *Ibid.*

[203] Directive 2000/46/EC

definition of credit institutions of the Second Banking Directive,[204] where the issuers would thus be subjected to the same legal regime with some exemptions from its provisions.[205] It was decided that the introduction of a separate prudential supervisory regime for electronic money institutions which, although calibrated on the prudential supervisory regime applying to other credit institutions in the Banking Directive[206] is justified, because the issuance of electronic money does not constitute an electronic surrogate for coins and banknotes and a deposit taking activity[207] pursuant to the Banking Directive.

Directive 2000/46/EC is argued to be for the purpose of creating a harmonised single market in the provision of electronic money in the EU[208] and to create a level playing field between banks and non-banks providing electronic money services.[209]

C. Australia

The regulatory approach taken by Australia on electronic money constitutes an improved regulatory structure of the payment system. The Australian financial regulatory structure has undergone major changes since July 1998, based on the recommendation made by the Financial System Inquiry, also known as the Wallis Committee.[210] The Committee analysed the forces driving changes in the Australian financial system and

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[204] Directive 2000/12/EC

[205] Commission proposal for a European Parliament and Council Directive amending Directive 77/780/EEC on the co-ordination of laws, regulations and administrative provisions relating to the taking up and pursuit of the business of credit institutions COM (1998) 461 final.

[206] Directive 2000/12/EC except Title V, Chapters 2 and 3.

[207] Directive 2000/12/EC under Article 3.

[208] *See* JCT Chuah 'The New EU Initiatives to Regulate Electronic Money Institutions – A Critique of the EU's Approach to Electronic Money' 15(8) *Journal of International Banking Law* 180-186 (2000).

[209] *See The New Virtual Money: Law and Practice* (n 17) 435.

[210] *See* 'Financial System Inquiry Final Report'.
Available at <http://www.fsi.treasury.gov.au/content/FinalReport.asp> last visited May 2003.

gave advice on ways to improve regulatory powers based on its function to promote the stability and efficiency of the payment system.[211]

Upon the recommendations, the Payment Systems (Regulation) Act 1998 was enacted.[212] Under this legislation, the Reserves Bank of Australia (RBA) under the Bank's Payment System Board determines the RBA's payment systems policies. Under the same legislation, the RBA has the power to regulate the payment systems[213] and purchased payment facilities.[214] The purchased payment facility is a facility purchased by one person from another and is intended to be used for making payments in accordance with the agreed conditions.[215] An example of a purchased payment facility is stored-value schemes such as stored-value card.[216]

In regulating a payment system, the Payment Systems (Regulation) Act 1998 allows the RBA to obtain information from participants and to set an access regime[217] and determine risk control and efficiency standards for designated payment systems. [218]

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[211] *Ibid.*

[212] *See* The Parliament of the Commonwealth of Australia House of Representatives 'Explanatory Memorandum of the Payment Systems (Regulation) Bill 1998'.

[213] Payment Systems (Regulation) Act 1998 sections 10 to 21.

[214] Payment Systems (Regulation) Act 1998 sections 22 to 25.

[215] Payment Systems (Regulation) Act 1998 section 9(1).

[216] *See* Payment Systems (Regulation) Act 1998 section 6 (1), which includes that 'the regulation of purchased payment facilities operates through regulation of the holders of the stored-value of such facilities'. *See* also 'Explanatory Memorandum of the Payment Systems (Regulation) Bill 1998' (n 212) under 'Summary of Key Measure Proposed by the Bill' on RBA's intention to have regulatory control over purchased payment facilities which includes travellers' cheques, stored-value cards and stored value systems for the use over the Internet.

[217] Payment Systems (Regulation) Act 1998 sections 12 to 15.

[218] Payment Systems (Regulation) Act 1998 section 18.

Under the Act, the holder of the stored-value must either be an authorised deposit-taking institution[219] or hold an authority[220] or an exemption[221] issued by RBA. The holder of stored-value can be a corporation whose function is to accept the responsibility for making payments from the purchased payment facility.[222] In the case of a stored-value card, the holder of the stored-value is the company that accepts money from an individual for the purchase of value on a stored-value card and thereby has an obligation to make good valid payments from the card.[223]

In 2000, further changes were made to the regulatory powers on issues regarding the supervision of the holder of stored-value. The Australian Prudential Regulatory

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[219] The authorised deposit-taking institutions are within the meaning of the Australian Banking Act 1959, where their supervision is under the Australian Prudential Regulation Authority (APRA).

[220] Payment Systems (Regulation) Act 1998 section 23(1) states: -

> A constitutional corporation may apply to the Reserve Bank for an authority to be the holder of the stored value of a class of purchased payment facilities. The application must comply with the application requirements determined under section 27.

Section 27 of the same Act allocate the power of RBA to determine the requirement for applications: -

> The Reserve Bank may, in writing, determine requirements to be complied with in relation to applications under this Act, including (but not limited to) requirements relating to:
> (a) the means by which an application is to be made; and
> (b) the information or documentation that is to be included in or submitted with an application; and
> (c) the verification of an application or of information or documentation included in or submitted with it.

[221] RBA may grant a corporation and exemption to be the holder of stored-value in respect of purchased payment facilities even though the corporation is not an authorised deposit-taking institution and does not have an authority under section 23 of this Act that covers those facilities. *See* Payment Systems (Regulation) Act 1998 section 25(1).
An application for an exemption must comply with the applicable requirements determined under section 27 of the same Act. *See* Payment Systems (Regulation) Act 1998 section 25(2).

[222] Payment Systems (Regulation) Act 1998 section 9(2) which provides: -

> The holder of the stored-value, in relation to a purchased payment facility, is the person who is to make payment as mentioned in paragraph (1)(c).

Section 9(1)(c) stated above provides: -

> A purchased payment facility is a facility (other than cash) in relation to which the following conditions are satisfied:
> (c) those payments are to be made by the provider of the facility or by a person acting under an arrangement with the provider (rather than by the user of the facility).

[223] *See* 'Explanatory Memorandum of the Payment Systems (Regulation) Bill 1998' (n 212).

Authority (APRA) has the power to supervise the holder of stored-value if the holder is deemed to be carrying on banking businesses.[224] This will be the case when the facility is available for purchase and is used on a wide basis where the unused value can be repayable on demand in Australian currency.[225] Stored-value schemes outside the scope stated above will still be supervised by the RBA within the purview of the Payment Systems (Regulation) Act 1998.[226] The reason for this distinction is that if the holders of stored-value must repay the consumer in Australian currency, in full or in part, the holders must be regulated as a banking business because their business is akin to deposit-taking.[227] For consistency reasons, these stored-value holders have to be regulated under the common regime in order to have uniform regulatory treatment as the authorised deposit-taking institutions.[228]

Australia is of the view that any corporation should be free to issue stored-value,[229] provided that authorisation[230] or exemption[231] is given by the RBA. The RBA may grant the authority if it believes that the corporation is able to meet its obligations as holder of the stored value.[232] Exemption may be granted if the corporation is small,

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[224] *See* Australian Payment Systems Board 'Payment Systems Board Annual Report 2000 on Competition and Efficiency' Reserve Bank of Australia 2001. *Available at* <http://www.rba.gov.au> last visited March 2002.

[225] *Ibid.*

[226] *Ibid.*

[227] *Ibid.*

[228] *Ibid.*

[229] This includes authorised deposit-taking institutions, which are allowed to become the holders of stored-value. *See* Payment Systems (Regulation) Act 1998 section 22, which provides that the holder of the stored-value of a purchased payment facility shall include an authorised deposit-taking institution.

[230] Payment Systems (Regulation) Act 1998 section 23(1).

[231] Payment Systems (Regulation) Act 1998 section 25(1).

[232] That is, if RBA believes that the applicant will be able to make payments against the purchase made by users of the purchased payment facilities. *See* 'Explanatory Memorandum of the Payment Systems (Regulation) Bill 1998' (n 212) and Payment Systems (Regulation) Act 1998 section 23(2).

providing isolated facilities and operating in a closed environment.[233] Even though the RBA has wide powers under the Payment Systems (Regulation) Act 1998, to date, no purchased payment facilities have been authorised by RBA or APRA.[234]

D. Hong Kong

Currently, emerging economies like Hong Kong take the approach that there is a distinction between card-based and the network-based electronic money schemes and the regulatory framework is based on this distinction. Although Hong Kong has amended its Banking Ordinance to include regulatory provisions for multipurpose stored-value cards, there has been however, no attempt so far to include any provision on network-based schemes.[235] The legal framework for regulating issues on card-based electronic money schemes is contained in the Hong Kong's Banking Ordinance, which was amended in 1997[236] to provide for multipurpose stored-value cards.

Under the legal framework, Hong Kong does not restrict any person from issuing multipurpose stored-value cards. Whereas a fully licensed bank is approved to issue the card,[237] other companies will have to obtain approval from the HKMA to be appointed as deposit-taking companies, a special purpose vehicle whose principal business is issuing multipurpose stored-value cards.[238] The HKMA also does not wish to regulate single

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[233] *See* 'Explanatory Memorandum of the Payment Systems (Regulation) Bill 1998' (n 212) and Payment Systems (Regulation) Act 1998 section 25(2).

[234] The RBA anticipates that any purchased payment facilities that ultimately achieves widespread usage in Australia will fall under APRA supervision. *See* 'Payment Policy' <http://www.rba.gov.au> last visited July 2005.

[235] The Banking (Amendment) Ordinance 1997 includes amendments made to the Banking Ordinance on issues related to multipurpose stored-value card but not on network money. The 'Guide to Authorization under the Banking Ordinance' issued by HKMA also provides guidance to the issuer of the stored-value card only. *See* Chapter 10 of the 'Guide to Authorization under the Banking Ordinance' on Authorization of the Issue of Multi-Purpose Stored-Value Cards.

[236] Banking (Amendment) Ordinance 1997 came into full operation since 15 May 1997.

[237] Banking Ordinance section 16(3B).

[238] Application can be made under Banking Ordinance section 15(3).

purpose stored-value cards,[239] and declares a stored-value card not a multipurpose card authorised under the Banking Ordinance in the event that the scheme only has limited usage and the risks to its use to the payment systems and cardholders are slight.[240]

The HKMA has stated that the purpose of the regulatory framework is not only to achieve the objectives of maintaining the stability of the payment system, but also prevention of stifling development which could promote competition and innovation. [241] Based on the fact that only licensed banks have direct access to the payment systems in Hong Kong, even if there is no restriction for non-banks to issue multipurpose stored-value cards, only banks are allowed to issue multipurpose stored-value cards without any restriction in terms of the goods and services in which the card can be used to purchase.[242] Consistent with the HKMA's commitment not to stifle innovation, opportunity is also given to non-banks to issue multipurpose stored-value cards, even though the scope is more limited in nature.[243]

The HKMA has been specific in approving non-licensed issuers of multipurpose stored-value cards. Four-guiding principles were established in considering the authorisation and approval of non-bank issuers. First, multipurpose stored-value cards

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[239] *See* 'Guide to Authorization under the Banking Ordinance' (n 235) under paragraph 10.4 which provides that 'a single purpose card is where the goods and services (which in this case shall not include money) are provided only to the issuer of the card (and not by a third party). The issuance of single-purpose cards does not require approval under the Ordinance.' *See* also Banking Ordinance section 2 (1) on definition.

[240] Banking Ordinance section 2 (14) empowers the HKMA to specify by notice in the Gazette, and subject to such conditions as are specified in the notice, that certain stored-value cards do not fall within the definition of 'multi-purpose card'.

[241] *See* 'Guide to Authorization under the Banking Ordinance' (n 235) paragraph 10.11(a) and (b).
It has been argued that it is desirable for the HKMA as a central bank to intervene and regulate banks. This is based on the risks involved, including legal risks that still exist which make regulation still necessary. *See* Gannon S 'Weaving Nets to Catch the Wind: The Legal and Regulatory Issues Concerning the Development of Robust and Efficient International Electronic Financial Infrastructure' 33(4) *Common Law World Review* 352-367 (2004).

[242] *See* 'Guide to Authorization under the Banking Ordinance' (n 235) paragraph 10.12.

[243] *Ibid.*

must have a core use that must be related to the business of the owners.[244] Second, even if there are a number of ancillary or incidental usages, which are for the convenience of the card users, such uses are subjected to the approval of HKMA in advance and the card cannot be used for other purposes without the HKMA's consent.[245] Third, the issuer of the card must be able to justify and present an acceptable business case for the ancillary and incidental uses of the card.[246] Fourth, the ancillary and the incidental uses must not overwhelm the core use.[247]

The regulation of multipurpose stored-value card does not end at the initial stage of issuing authorisation prior to the issuance of the card. The issuers of the card will continue to be supervised by the HKMA. They will be required to submit periodic returns to the HKMA on the amount of electronic value issued and outstanding, the aggregate transaction value and average value of transactions.[248]

E. Singapore

The regulatory approach taken by Singapore is more rigid than that of Hong Kong. Singapore, like Hong Kong, has amended its Banking Law to provide the requirements for the issuer of stored-value card. The difference is that the Monetary Authority of Singapore (MAS) views the issuance of the multipurpose stored-value cards similar to bank deposit. The amended Singapore Banking Act only allows banks to issue

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[244] *Ibid.* Paragraph 10.13 (a).

[245] *Ibid.* Paragraph 10.13 (b).

[246] *Ibid.* Paragraph 10.13 (c).

[247] *Ibid.* Paragraph 10.13 (d). The issuer in this case would be required to demonstrate that the other uses would not exceed the core use in terms of the aggregate value of transactions.

[248] Banking Ordinance section 16(9)(b) gives the HKMA the power to require from all authorised institutions to submit all documents relating to the companies account, which include audited annual accounts and cash flow statements.

multipurpose stored-value cards.[249] The Singapore Banking Act also exempts single purpose stored-value cards[250] from the purview of the Act.

The MAS, like the HKMA, applies not only licensing requirements to multipurpose stored-value card issuers, but also subjects them to regular monitoring. For example, banks that issue the stored-value cards are required to maintain reserves and liquid assets against proceedings arising from the issuance of the cards.[251] The banks that issue the multipurpose stored-value cards will be subjected to a penalty interest charge if they fail to comply with the reserve and liquidity requirements.[252]

Even though Singapore only allows licensed banks, which are already within the purview of the Banking Act, to issue the multipurpose stored-value cards, the regulatory framework for issuing electronic money is strict.[253] For example, the MAS may determine the terms and conditions under which a stored- value card may be issued by a

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[249] Banking Act section 77A(1)(a) states: -

> No person shall issue any stored-value card except -
> (a) a bank which has obtained the approval of the Authority.

[250] Banking Act section 77A(1)(b) states: -

> No person shall issue any stored-value card except -
> (b) a person for payment only of goods or services or both goods and services provided by that person.

[251] Banking Act section 77A(2) provides: -

> The proceeds arising from every issue by a bank of a stored value card may be subject to such reserve and liquidity requirements as the Authority may by notice in writing determine.

[252] Banking Act section 77A(3) states the following -

> The Authority may, for any failure to comply with the reserve and liquidity requirements, impose a penalty interest charge of $100 per day or such larger amount as the Authority may determine.

[253] The approach taken by MAS to have a strict regulatory framework for electronic money may be questionable. It has been argued that due to changes in technology, financial regulators such as MAS face continuing challenges in building new regulatory structure. These changes have questioned the effectiveness of the regulatory structure and to make sense of this financial revolution, there is a need to understand the motivations beneath these changes. *See* Maysami RC 'Financial E-Regulation in Singapore: Global Issues in Supervision of Internet Banking' 15(9) *Journal of International Banking Law* 225-231 (2000).

bank.[254] Heavy fines are also imposed in the event that banks contravene the provisions on stored-value cards under the Banking Act.[255]

V Concluding Remarks

The reason for the low acceptance of electronic money as a mode of payment is not because of the lack of technology. The business feasibility and the legal framework that support the payment instruments are equally important.[256] However, the acceptance from the public in supporting the new payment instrument is the most important because payment mode is a social convention.[257] At the present time, social conventions make people believe that plastic cards such as credit cards and cheques are universally enforceable.[258] While this was not always the case, change in perception develops slowly. Even when electronic funds transfer allows one individual to transfer funds to another, some still prefer to use cheques for certain transactions. In fact, in certain countries such as the United States, the use of cheques has been increasing despite the fact that the United States has an efficient electronic fund transfer system.[259]

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[254] Banking Act section 77A(4) provides: -

> The Authority may determine the terms and conditions under which a stored-value card may be issued by a bank and that bank shall comply with such terms and conditions.

[255] Banking Act section 77A(8) provides: -

> Any person who contravenes this section shall be guilty of an offence and shall be liable on conviction to a fine not exceeding SGD 250,000.00.

[256] Winn JK 'Non-bank Financial Services' Lecture to Law Post Graduate Students of Queen Mary, University of London in London on 2 June 2003. Discussion arising from the question of why Internet payment systems have not been successful.

[257] *See* Cook S 'The Financial Services Revolution' in Dorn JA (ed) *The Future of Money in the Information Age* (Cato Institute United States 1997) 51, 57.

[258] *Ibid.*

[259] *See* Humphrey DB, Sato S, Tsurumi M, Vesala JM 'Policy Research Working Paper: The Evolution of Payments in Europe, Japan and the United States' Financial Sector Development Department, The World Bank 1996.

One of the reasons for the slowness in payment instruments being accepted is the complexity of the financial services.[260] As a country develops, financial services and products diversify.[261] This diversification presents complexity to the public when choosing financial services or its products and this is applicable to electronic money schemes.[262] As ICT develops, various stored-value cards, electronic money schemes have been introduced to accommodate payments but either fail completely, or have not had sufficient success.[263] The failure of new electronic money schemes in some countries may also be due to the inadequate awareness or education of the public. If the habits of people remain, they will only use familiar payment instruments such as credit cards.[264]

Innovation in the payment system often occurs in small steps rather than in leaps.[265] If an existing payments system can be modified so that they can deliver new benefits to the consumers, it would be preferred.[266] Then, it would be more beneficial to modify existing payment instruments such as credit cards rather than to develop new payment schemes such as electronic money.

Since the development of payment systems has been historically slow,[267] it is

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[260] *See* 'The Financial Services Revolution' in *The Future of Money in the Information Age* (n 257) 51, 57.

[261] *Ibid.*

[262] *Ibid.*

[263] *See* section II under D - 1, 2 and 3. However, note the success of stored-value card in Hong Kong and Singapore in section II under D - 4 and 5.

[264] The public must be convinced that the new payment instrument introduced is better or on par with traditional payment instrument like credit card or cheques. *See* Chapter 2 section II under C.

[265] *See* 'The Financial Services Revolution' in *The Future of Money in the Information Age* (n 257) 51, 58.

[266] *Ibid.*

[267] *See* 'Fostering Financial Innovation: The Role of the Government' in *The Future of Money in the Information Age* (n 140) 45, 45. The author in this article argued that even in the Unites States where payments and banking systems have been computerised since 1960s, for transactions initiated by consumers, paper currency and cheques remain the payment systems of choice.

logical to believe that the development of electronic money will also be slow.[268] It cannot be assumed that because of the wide usage of the Internet and the development of ICT, the acceptance of electronic money as a payment product would be instantly wide.[269] The process of public acceptance of new payment instruments must observe the slow process that other payment instruments have experienced.[270]

The slow development should not discourage regulatory authorities from establishing a regulatory framework for electronic money. The roles of the government in protecting the interest of the public have triggered initiatives by various governments to look at the regulatory framework.[271] Even in countries such as the United States that prefer self-regulation, there has been an attempt of adopting some form of regulations for electronic money.[272]

There has been ample effort made by various organisations to study issues relating to electronic money. The BIS has published reports on electronic money, especially on issues affecting central banks.[273] As the result of the Economic Communiqué issued at the Lyon Summit by the G-7 Heads of States,[274] a Working Group

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[268] Notably, certain stored-value card products in Hong Kong and Singapore have been successful. However, in Malaysia, the acceptance of this product is slow. *See* section II under D - 4 and 5 and 'Bank Negara Malaysia Annual Report 2004' (n 29) 223.

[269] *Ibid.*

[270] However, it should be noted that not all electronic money schemes received the slow acceptance from the public. In emerging economies like Hong Kong and Singapore, the stored-value cards electronic money schemes have been successful especially in recent years. *See* section II under D - 4 and 5.

[271] *See* section IV

[272] For example, the formulation of the United States Uniform Money Services Act 2000. *See* section IV under A. The United States also believes that government intervention is still necessary especially in situations where public interest must be protected. *See* also 'A Framework for Global Electronic Commerce' (n 146).

[273] BIS have issued various reports on electronic money under the Committee on Payment and Settlement Systems Publication which are a*vailable at* <http://www.bis.org>.

[274] Countries in the G-7 are the United States, the United Kingdom, Canada, Japan, Germany, Italy and France. However, it should be noted that at present, these group of countries are known as the G-8 countries, with the addition of Russia.

was formed by the G-10[275] deputies with representatives from their finance ministries, central banks and law enforcement authorities to study the implications of new, sophisticated retail payment systems.

As for emerging economies, such as Malaysia, Hong Kong and Singapore, various efforts have been made through the Asian-Pacific Economic Cooperation (APEC)[276] on issues relating to the development of ICT.[277] Although no study has been made on electronic money in the APEC region, the Executive Meeting of East Asia-Pacific Central Bank and Monetary Authorities (EMEAP), in which Malaysia, Singapore and Hong Kong are members, studied electronic money in its Working Group on Payment and Settlement Systems. [278] In July 2002, their report discussed extensively the issues relating to electronic money.[279] However, no effort has been made to promote a regional regulatory policy that is applicable to all EMEAP member countries.[280]

Despite the consensus that common policy objectives for electronic commerce should be considered to harmonise and standardise protocols, little effort has been made in this direction at the regional level. This applies to electronic money in spite of its potential of being used globally to cater for payments made in electronic commerce. Only the EU has taken the lead to harmonise the prudential supervision of electronic money businesses. Efforts made under the Directive[281] aim to secure the mutual recognition of

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[275] G-10 countries are made up of 11 industrialised countries, which are all the previous G-7 countries, including Netherlands, Belgium, Sweden and Switzerland.

[276] Malaysia, Singapore and Hong Kong are members of the Asian-Pacific Economic Cooperation (APEC).

[277] *See* Chapter 1 section VI.

[278] This Working Group was a reorganisation of the former Working Group on Financial Market Development under EMEAP. *See* 'Payment Systems in EMEAP Economies' (n 73).

[279] *Ibid.*

[280] *Ibid.*

[281] Directive 2000/46/EC.

authorisation by granting a single licence recognised throughout the community.[282] However, such a development in the regulatory framework is much easier to be enforced in EU member states as compared to other regions, which do not have the same formal, legal foundation as the EU.

Emerging economies such as Malaysia, Hong Kong and Singapore are keen to develop regulatory frameworks for electronic money. This is consistent with their government's policy of developing ICT.[283] The effort by emerging economies like Malaysia to develop the infrastructure and technology for electronic money schemes still continues.

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[282] *See* Directive 2000/46/EC under preamble paragraph (4).

[283] *See* Chapter 1 section IV for Singapore and Hong Kong and Chapter 1 section V for Malaysia.

CHAPTER 4

REGULATORY FRAMEWORK OF ELECTRONIC MONEY IN MALAYSIA

I Introduction

The first three chapters discussed the relationship between the development of Information and Communication Technology (ICT) and enhancing retail payment systems and its instrument.[1] Emerging economies, such as Malaysia, Hong Kong and Singapore, have been quick to build a regulatory framework for electronic money in line with their agenda to develop ICT.[2] This is despite some suggestions that a regulatory framework for an evolving product is not necessary and will stifle innovation.[3] Comparison has also been made between the emerging economies and the developed countries in their approach in developing the regulatory framework for electronic money.[4]

The last two chapters of this thesis will focus on Malaysia, analysing the regulatory issues of electronic money and how the relevant authorities should enhance their cooperation as electronic money schemes become more sophisticated. This chapter describes selected stored-value card electronic money schemes in Malaysia which are in operation. The function of Bank Negara Malaysia (BNM) as a regulator to retail payment system and its regulatory roles and contributions on electronic money will be analysed. The background to the enactment of the Payment System Act 2003 (PSA) in relation to electronic money schemes is explored. The various problems when applying the

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[1] *See* in particular Chapter 1 section III and Chapter 2 section II under D.

[2] *See* Chapter 3 section IV under D and E for Hong Kong and Singapore.

[3] *See* Greenspan A 'Regulating Electronic Money' CATO Online Policy Report Volume XIX Number 2, March/April 1997. *Available at* <http://www.cato.org/pubs/policy_report/cpr-19n2-1> last visited August 2001 and Clinton B 'A Framework for Global Electronic Commerce' The White House 1997. *Available at* <http://www.ecommerce.gov.framework.html> last visited August 2001.

[4] *See* Chapter 3 section IV.

provisions of the now repealed Banking and Financial Institutions Act 1989 (BAFIA)[5] to electronic money are taken into consideration in clarify the rationale of having specific provisions under the PSA on electronic money.

Taking into account the process of legal reform that has taken place in Asia, this chapter will analyse the normative approach taken by BNM for enacting the PSA. The challenges that the central bank *i.e.* BNM will face in implementing the payment systems legislation, including the adequacy of BNM's regulatory power on electronic money is examined. Analysis will also be made of BNM's roles in developing electronic money in relation to the Multimedia Super Corridor (MSC).[6] Finally, issues relating to the coordination of functions between BNM and other relevant regulatory authorities in implementing relevant legislation to electronic money are discussed.

II Electronic Money Schemes in Malaysia

There has been several card-based electronic money schemes developed by private companies in Malaysia. Malaysia has taken the view that all industries, be they financial institutions or otherwise, can develop electronic money schemes. The Government of Malaysia itself also plays an active role in developing electronic money schemes. The MSC project, for example, which developed the National Multipurpose Card, includes an electronic money application in the card.

A. National Multipurpose Card

The National Multipurpose Card comprises two cards with different applications. The first is the Government Multipurpose Card (GMPC)[7] and the second card is the

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[5] With the enactment of the new payment system legislation, all provisions related to electronic fund transfers, which are applicable to electronic money scheme are deleted. *See* Banking and Financial Institutions (Amendment) Act 2003 section 2, 7 and 8.

[6] *See* Chapter 1 section V under B - 2.

[7] Also known as MyKad. *Available at* <http://www.mdc.com.my/flagship> last visited July 2005.

Payment Multipurpose Card (PMPC). [8] Even though both cards have different applications, both provide electronic money applications.

The objectives of the government in developing these cards are to enhance the services for the public in consonance with the development of ICT, which are: -[9]

i. To provide applications in the GMPC and PMPC, and other future applications on a single multipurpose card platform;
ii. To provide enhanced services to consumers; and
iii. To enhance the security and convenience of existing and new applications delivered on the multipurpose card platform.

By developing a single and common platform for the National Multipurpose Card, it will enable the government and the private application providers to implement smart card solutions without duplication of effort and investment.[10]

The National Multipurpose Card uses chip technology and is capable of performing a wide range of functions, including data processing, storage and file management.[11] As both multipurpose cards are based on a single platform and the difficulty of combining all applications onto a single card is the only reason to have two cards, it will be possible in the future to transfer all applications onto a single card.[12]

This scheme was developed with the cooperation of financial institutions and relevant government agencies. The Concept Request for Proposal was issued by BNM in

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[8] *Ibid.* Also known as Bankcard.

[9] *See* Government of Malaysia and Bank Negara Malaysia *Concept Request for Proposal – Multipurpose Card Flagship Application* (Bank Negara Malaysia Publications Malaysia 1997) 2.

[10] *Ibid.*

[11] *Available at* Multimedia Development Corporation on 'Flagship Applications' <http://www.mdc.com.my/flagships> last visited July 2005.

[12] *Ibid.* The decision not to combine the government and payment applications is due to policy reason.

July 1997[13] covering the development and implementation of the card platform and initial applications, including the integration of the electronic cash schemes into both the GMPC and PMPC.[14]

The National Multipurpose Card is also a tool and medium for other MSC initiatives. For example, the Electronic Government flagship applications[15] will be designing new operational methods and processes around various interfaces that will utilise the National Multipurpose Card as an 'access key'[16] and transaction vehicle.[17]

The GMPC's five applications are the national identity, the driving licence, immigration, health and electronic money. The use of electronic money is however, optional.[18] The development, implementation and on-going operation of the government applications is the responsibility of the Government Consortium, which comprises representatives of four relevant government agencies namely the National Registration Department, the Road Transport Department, the Immigration Department and the Ministry of Health.[19] A GMPC Project Management Committee chaired by the Director General of the National Registration Department oversees the overall development of this

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[13] *Ibid.* BNM was appointed by the government to be the lead agency to develop the Malaysian National Multipurpose Card by issuing the Concept Request for Proposal at the end of the project.

[14] *See Concept Request for Proposal – Multipurpose Card Flagship Application* (n 9).

[15] *See* Chapter 1 section V under B - 2.

[16] The access key applications do not require dedicated memory space in the chip, but will use the information inside the chip such as the National Identity Number or thumb print to access a database, run a program or conduct a transaction. Some of the potential access key applications that may be supported by the National Multipurpose Card are voter registration, student card, car park access, ticketless air travel and employees provident fund transaction. *Available at* Multimedia Development Corporation on 'Flagship Applications' < http://www.mdc.com.my/flagships > last visited July 2005.

[17] For example, the GMPC that has the electronic cash application can be used as a transaction vehicle to make payment to the government such as the fees for renewal of driving licences. The PMPC may also be used to make payment to the government via its electronic cash, the debit card or the credit card applications.

[18] *See Concept Request for Proposal: Multipurpose Card Flagship Application* (n 9) 4.

[19] *Ibid.* The national identity application is the responsibility of the National Registration Department, the driving licence application is the responsibility of the Road Transport Department, and the immigration application is the responsibility of the Immigration Department while the health application is the responsibility of the Ministry of Health.

project. A special unit, the GMPC Unit of the National Registration Department, was also set up to ensure the successful implementation of the GMPC.[20]

The four agencies, respectively responsible for its own application, combine their operational activities and are responsible for capturing consumer information through card personalisation, issuance and on-going services of the GMPC.[21] The Consortium also oversee the delivery of services at all shared Government Service Centres that will represent a one-stop service centre for any transaction or service of the GMPC.[22] There were two phases of roll out, the pilot of two million people within the MSC and Kuala Lumpur area,[23] and the follow-up nation wide in 2003. Currently, the GMPC or MyKad has been implemented in Malaysia where all Malaysian citizens are required to have the card by the end of December 2005.[24]

The PMPC or the BankCard which is currently in operation, has four applications, *i.e.* electronic cash, credit card, debit card and Automated Teller Machine (ATM) Card.[25] The credit, debit and the ATM applications will continue to be issued by individual financial institutions but combinations of applications will be at the discretion of the

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[20] *Ibid.*

[21] *Available at* National Registration Department on 'Government Multipurpose Card' <http://www.jpn.gov.my/gmpc/GMPC.htm> last visited July 2005.

[22] *Ibid.* There are 12 Government Service Centres within the Kuala Lumpur and MSC Area. All data captured at the Service Centres will be transmitted to the National Registration Department Head Quarters before being sent to personalisation and card production. The centres provide services such as the application of a new MyKad, replacement of MyKad, renewal of driving licence, updating of the applicant's data on the card, uploading passport information and payment and updating of road summonses.

[23] The Kuala Lumpur and MSC roll out has been implemented. The first introduction of the GMPC to the public was on 12 April 2001. The official launching of the card was on 5 September 2001. *Available at* 'National Registration Department' <http://www.jpn.gov.my/gmpc/calender_of_events.htm> last visited July 2005.

[24] All Malaysian are required to have a National Registration Card (identity card). As MyKad includes this application, the requirement to change from the existing National Identity Card to MyKad is compulsory. *Available at* National Registration Department on 'Government Multipurpose Card' <http://www.jpn.gov.my/gmpc/GMPC.htm> last visited July 2005.

[25] *Available at* <http://www.mdc.com.my/flagship> last visited July 2005.

individual financial institution and the customers.[26] The Payment Consortium[27] is responsible for the development of electronic money, which includes providing the switching,[28] clearing and settlement for the transaction.[29]

All applications under the PMPC are based on chip technology. This is to gain the full security benefits of chip technology and to support the development of new products and services.[30] It also enhances security by ensuring that the integrity and confidentiality of all data transmitted are maintained and to ensure card authentication.[31]

There is also the disposable and reloadable stand-alone electronic cash card (known as MEPS Cash) developed by the Payment Consortium under the MSC project.[32] To ensure that there exists no duplication of technology and that a single platform is used, the Concept Request for Proposal specifically states that the electronic money application and infrastructure under the GMPC and PMPC must be compatible with the stand-alone MEPS Cash.[33] The pilot test was conducted during the Commonwealth Games in Kuala

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[26] *See Concept Request for Proposal: Multipurpose Card Flagship Application* (n 9) 4.

[27] The Payment Consortium, Malaysian Electronic Payment System Sdn Bhd (MEPS), is a company owned by a consortium of local financial institutions. The establishment was initiated by BNM and apart from developing the electronic money scheme, MEPS also provides the shared ATM network service, implements the SET Payment Gateway and develops the Inter Bank Giro. *Available at* 'Malaysian Electronic Payment System Sdn Bhd' <http://www.meps.com.my> last visited July 2005.

[28] Switching means that the Payment Consortium will provide member financial institutions a switch that facilitates ATM sharing facilities. *See Concept Request for Proposal: Multipurpose Card Flagship Application* (n 9) 40.

[29] *Ibid.*

[30] *Ibid* 46.

[31] *Ibid* 49.

[32] *Ibid* 4.

[33] *Ibid.*

Lumpur in 1998[34] and later in Bangsar town in 1999.[35] MEPS Cash is now fully in operation.[36]

B. Touch 'n Go

This scheme, issued by a private company,[37] initially catered for toll and fare payments in Malaysia.[38] It is a contactless stored-value card that accepts payment at the designated tollbooths at the highway, on buses and on the Light Railway Transit[39] or LRT. The scheme has extended to entry payment to amusement theme parks.[40] The value of the card can be reloaded at ATM machines of participating financial institutions, shopping complexes, petrol kiosks, LRT stations, 7-eleven outlets[41] and McDonald restaurants nationwide.[42]

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[34] *Available at* Multimedia Super Corridor on 'Multipurpose Card' <http://www.msc-expo.xom.my/2000/mpc> last visited July 2005.

[35] *Ibid.*

[36] The maximum amount that can be loaded is MYR 2000. There is an audit trail for all transactions and there is no need for signature authorisation or Personal Identification Number (PIN). MEPS Cash, both reloadable and disposable, operates off-line. *Available at* Malaysian Electronic Payment System Sdn Bhd on 'MEPS Cash' <http://www.meps.com.my/product/meps_cash/product.htm> last visited July 2005

[37] The company is known as 'Rangkaian Segar Sdn. Bhd.' *Available at* 'Touch 'n Go' <http://www.touchngo.com.my/term&con.htm> last visited July 2005.

[38] *Available at* 'Touch 'n Go' <http://www.touchngo.com.my/aboutus> last visited July 2005.

[39] Commuter train service accommodates short distance travel between the capital, Kuala Lumpur and other selected towns in other states.

[40] Three amusement theme parks offer the services. *Available at* 'Touch 'n Go' <http://www.touchngo.com.my/aboutus> last visited July 2005.

[41] 24-hour convenient stores which are available in most towns in Malaysia.

[42] *Available at* 'Touch 'n Go' <http://www.touchngo.com.my/aboutus> last visited July 2005.

The card value can be reloaded between MYR 50 and MYR 500.[43] Besides using the ATM machines, the value can be reloaded by cash or via the Internet.[44] In addition, an audit trail facility is also provided. Consumers are encouraged to track their transaction details of the card usage such as date, time, point of entry and exit, amount deducted and amount reloaded through this facility.[45] The transaction details can also be tracked online by subscribing to the electronic audit trail facility,[46] which gives unlimited online access to the details needed. Consumers can also request for statements to be printed and sent to them by post each month.[47]

There is also another Touch 'n Go product called the Touch 'n Go Auto Reload Card. This product has both the electronic money application and a credit card application issued by the participating bank.[48]

C. iSynergy

iSynergy Mastercard Electronic Purse Prepaid Card scheme is issued by a Malaysian private company called the iSynergy Sdn. Bhd. which is a Mastercard principal licensee.[49] There are some limitations in using this card, for example, the consumer is only allowed to make a maximum of five purchase transactions per day where the value for each purchase transaction must not exceed the balance of prepayment

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[43] *Ibid.*

[44] *Ibid.*

[45] The audit trail facility is called the IMUS facility. *Available at* 'Touch 'n Go' <http://www.touchngo.com.my/whatisImus.htm> last visited July 2005.

[46] *Ibid.* The electronic audit trail is known as e-IMUS.

[47] *Ibid.*

[48] The participating banks are local banks such as the Affin Bank, Hong Leong Bank and Bumiputra Commerce Bank. *Available at* 'Touch 'n Go' <http://www.touchngo.com.my/aboutus> last visited July 2005.

[49] *Available at* 'iSynergy' <http://www.isynergy.com.my> last visited July 2005.

or MYR 200.[50] Another limitation is that it does not facilitate purchase or payment transactions via the Internet and cannot be used at the ATM machines unless the company has permitted the cardholder to do so.[51] To own this card an annual fee and an issuance fee are charged.[52]

Under this scheme, the cardholder is allowed to use the card to make payments from outside Malaysia. The value of the payment made will be converted to USD currency and then back to MYR currency at the prevailing exchange rate as determined by Mastercard International Inc. There will be a service charge of 1.50% by the company if this facility is utilised.[53] The value in the card must be in multiples of MYR 50 with the maximum prepayment value at any one time of MYR 10,000.[54] The remaining value in the card cannot be converted to cash.[55]

This scheme also provides information on all the transactions made via the card on a quarterly basis. The cardholder can also request for the transaction record at any time, for a fee of MYR 5.[56]

III Function of Bank Negara Malaysia (BNM) in Regulating Electronic Money Scheme

BNM, as a central bank, has taken the lead to shape and implement the regulatory framework of electronic retail payment systems, especially in recent years.[57] Since

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[50] *Available at* iSynergy 'Term & Condition of E-Purse' <http://www.rewardstreet.com.my/registration/mceTC.htm> last visited July 2005.

[51] *Ibid.*

[52] *Ibid.*

[53] *Ibid.*

[54] *Ibid.*

[55] *Ibid.*

[56] *Available at* 'iSenergy' <http://www.isynergy.com.my> last visited July 2005.

[57] *See* further at section III under A and B - 2.

electronic retail payment systems have developed and evolved, the role of the central bank has to be re-examined in order to strike a balance between protecting the interest of the public and over-burdening the central bank of its main role in monetary policy. To what extent the electronic retail payment systems should be regulated by the central bank has to be analysed.

The central bank carries the responsibility of overseeing the payment systems in the country.[58] Central banks in emerging economies[59] have taken the view that new electronic retail payment has to be regulated as part of their function in overseeing the payment systems.[60] BNM, unlike the decisions made by HKMA and MAS to amend their existing Banking Acts to provide for regulations on stored-value cards,[61] has provide the regulatory framework for payment system in a specific Act.[62] BNM is of the view that a proactive and effective regulatory framework for payment system shall be adopted in its oversight function on payment systems.[63] The scope of this regulatory oversight includes issues on electronic retail payments, both conventional and recent retail product such as electronic money.[64]

As electronic retail payments instruments develop, non-financial institutions are becoming increasingly involved in providing retail services.[65] While overseeing the

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[58] *See* Committee on Payment and Settlement Systems 'Policy Issues for Central Banks in Retail Payments' Bank for International Settlements 2003 at 1 - 3.

[59] In fact, for those of Malaysia, Singapore and Hong Kong.

[60] Hong Kong has amended its Banking Ordinance to include regulatory framework on multipurpose stored-value card. Singapore also has amended its Banking Act to include regulation on stored-value cards. *See* Hong Kong Banking (Amendment) Ordinance 1997 and Singapore Banking Act section 77A.

[61] *See* Chapter 3 section IV under D and E for Hong Kong and Singapore.

[62] *See* section III under B - 2.

[63] *See* Recommendation 3.27 in Bank Negara Malaysia 'Financial Sector Masterplan' 2001 at 52.

[64] *Ibid.*

[65] *See* Chapter 2 section III under B on the involvement of non-financial institutions.

payment system, even though banks are likely to be the main player, the central bank will also need to regulate non-financial institutions. If this were the case, central bank would be extending its regulatory roles and functions to other industries requiring central banks to analyse both the financial and non-financial institutions. Even if the intention of central banks to provide the same regulatory standard for all sectors that provide similar retail payment services is to protect the interest of the public,[66] a balance must be strike between this reason and over-regulating the industries.[67]

With the development of ICT, the regulatory framework should pervade different ministries,[68] which should be applicable to electronic retail payment systems.[69] The development of electronic payment media has made it imperative that the roles of central banks and authorities responsible for supervising the financial systems must be clearly defined after any reform, particularly in environments where clear regulations and comprehensive legal framework are lacking.[70]

The question is how effective will enforcement be when there is cross-regulatory functions among authorities. Different authorities have diverse regulatory policies. In defining their roles and functions under separate legislation, relevant regulatory

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The Touch 'n Go card is an example of an electronic money schemes operated by a non-financial institutions. *See* section II under B for Touch 'n Go Card.

[66] The intention to provide a standard regulatory framework for both the financial and non-financial institutions is for the purpose of protecting the interest of the public. This intention is also one of the justifications in formulating the PSA. *See* Baharuddin AH 'Payment Systems Act 2003' Industry Briefing by the Head of Payment Systems Department Central Bank of Malaysia at Kuala Lumpur on 21 October 2003.

[67] It has been argued that in developing a framework, the danger of over-regulating must be avoided. The threat posed by over-regulation would result in too rigid a market, and stifling flexibility of operation and development. It could also lead to commercial entities setting up in jurisdictions with less rigid controls. Economic development would suffer, as the benefits offered by this new activity would be lost to other markets with less rigid structures. *See* Anil S 'The Regulation of Electronic Commerce in Asia: An Exploration' 3(6) *Journal of International Financial Market* 3(6) 220-231 (2001).

[68] *See* Committee on Payment and Settlement Systems Secretariat 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' Bank for International Settlements 2000.

[69] *Ibid.*

[70] *Ibid.*

authorities would have to ensure a workable relationship among them. This is to make certain that the cross-regulatory functions are beneficial to all subjected to the regulatory framework.

A. BNM as Regulator to Electronic Retail Payment System

The main concern of BNM in relation to payment systems is to promote innovation, efficiency and stability of the system[71] to ensure smooth implementation and transmission of monetary policy objectives and public confidence in the domestic financial system.[72]

Many countries have recognised the importance of payment systems and have made amendments to their legislation to extend their central bank's powers to oversee the systems.[73] BNM too has amended its CBA[74] to concur with the enactment of PSA. International organisations, such as the Bank for International Settlements (BIS), who also agree that payment systems are of great importance.[75]

BNM's function as a regulator to the payment systems is based on the Central Bank of Malaysia Act 1958 (CBA). This legislation, which was amended in 2003, has

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[71] *See* Executives Meeting of East Asia-Pacific Central Banks (EMEAP) Working Group on Payment and Settlement Systems 'Payment Systems in EMEAP Economies' EMEAP July 2002 at 298. *Available at* <http://www.emeap.org:8084> last visited October 2002.

[72] *Ibid* 299.

[73] Examples are legislation such as the Canadian Payment Clearing and Settlement Act 1996 and the Australian Payment System (Regulation) Act 1998. The Bank of England (BOE) also recognised the importance of payment systems. The BOE oversight of payment systems is a key element in the bank's responsibility for stability of the financial system as a whole. *See* 'Bank of England Core Purpose' <http://www.bankofengland.co.uk/about/corepurpose/index.htm> and Memorandum of Understanding between the Treasury, the Bank of England and the Financial Services Authority under Article 2 (i) and (ii) on 'The Bank's Responsibility' <http://www.bankofengland.co.uk> last visited July 2005.

[74] Central Bank of Malaysia (Amendment) Act 2003 section 3.

[75] *See* Committee on Payment and Settlement Systems 'Core Principles for Systemically Important Payment Systems' Bank for International Settlements 2001.

included payment systems' efficiency as one of the central bank's principal objectives.[76] The new CBA section 4 (ca) states the following: -

> The principal objects of the Bank shall be - [...]
>
> (ca) to promote the reliable, efficient and smooth operation of national payment and settlement systems and to ensure that the national payment and settlement systems policy is directed to the advantage of Malaysia.

The above amendment is also made in conjunction with the enactment of PSA.[77] It should be noted that BNM already has specific powers to establish a clearing house in order to facilitate the clearing of cheques and other credit or payment instruments for the banking institutions and other financial institutions.[78] BNM also has the power to authorise the manner in which banking institutions or other financial institutions should settle all their balances, whether it is within itself or with other financial institutions.[79]

The amendment to the CBA[80] strengthens the involvement of BNM on payment systems to be directly regulating it. The amendment to CBA on payment systems is only to make the objectives of BNM more specific. BNM, in fact, already had wide powers to regulate payment systems, including regulating non-financial institutions, since 1989 through the BAFIA[81] when some provisions were repealed with the enactment of the PSA.[82]

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[76] Central Bank of Malaysia (Amendment) Act 2003 section 3.

[77] *See* section III under B - 2.

[78] CBA section 43 (1).

[79] CBA section 43 (2).

[80] Central Bank of Malaysia (Amendment) Act 2003 section 3.

[81] *See* section III under B - 1.

[82] *See* section III under B - 2.

As the regulator of payment systems, the extent to which BNM is involved in regulating retail payment should be analysed. As the regulation of retail payment involves non-financial institutions, BNM would have to examine its resources[83] and expertise [84] to ensure adequate oversight of various industries. Whether the comprehensive regulatory framework is justified has to be considered as well. BNM has to examine the advantages and disadvantages of a rigid regulatory framework for an evolving product.[85]

In regulating retail electronic payment systems, BNM would have to discern the various risks that might arise and to see that the risks are properly managed.[86] This would include overseeing the degree of risks that is acceptable.[87] Another matter that has to be taken into consideration is whether the failure of one participant in the payment systems has systemic implications.[88] As BNM has the responsibilities to ensure the efficiency and the smooth operation of payment and settlement systems in the country,[89] it would be crucial for BNM to consider the reputational risk[90] faced not only by the system operators, but BNM itself.

For BNM to analyse all these issues, BNM may have to expand the ambit that it monitors. Studies would have to involve not only financial institutions but also other

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[83] This would include adequate personnel to be responsible for various regulatory tasks. Their involvement would not only include monitoring the provider of the retail payment services, but also in gathering and analysing the information on the retail instruments, including issues related to the market and development of the retail payment products.

[84] As a central bank in emerging economies, BNM may not have adequate expertise to regulate new electronic retail payment systems or the instruments. BNM may incur costs in appointing private consultants to assist with a range of regulatory issues.

[85] Such as electronic money product.

[86] *See* 'Implications for Central Banks of the Development of Electronic Money' Bank for International Settlements 1996.

[87] *Ibid.*

[88] *Ibid.*

[89] As provided under CBA section 4 (ca).

[90] *See* Chapter 2 section III under A.

industries that provide retail payment services. While retail payment systems do not have a direct impact on the stability of the financial system, their importance is increasing.[91] Thus, BNM has to ensure that it is well equipped with knowledge on electronic retail payments, especially new instruments such as electronic money.

The main role of a central bank in developing the electronic retail payment systems is to protect the interest of the public and the safety of the payment systems.[92] The public is the direct user of retail payment services or instruments. As the overseer of payment systems, the central bank has the duty to support and study the possibilities of new alternatives of payment.[93] However, the extent to which the central bank oversees retail payment systems would depend on the policy of each central bank.[94]

As overseer of payment systems, the central bank has various possible roles in relation to electronic retail payments. The central bank may only be active on issues related to the developmental work of the retail payment systems.[95] This approach is considered most suitable, as retail payment has no great impact on the financial system.[96] The role of a central bank in its development should be to provide and publish all findings and information and to recommend to the market on issues related to new retail

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[91] The Committee on Payment and Settlement Systems of the BIS has made comprehensive reviews of retail payments. Previously, reviews were concentrated on the payment instruments themselves and how they are settled, but the Committee has begun considering the possible implications of retail payments to central banks. *See* Report of the Working Group on Retail Payment Systems Committee on Payment and Settlement Systems 'Policy Issues for Central Banks in Retail Payments' Bank for International Settlements 2002 and 'Policy Issues for Central Banks in Retail Payments' 2003 (n 58).

[92] *See* Leinonen H 'Developments in Retail Payment Systems' BIS Paper No. 7 (Part 6) November 2001 at 65. Based on presentations given during Bank for International Settlements Workshop on 'E-Finance' in Basel Switzerland on 2 – 3 July 2001.

[93] *Ibid* 65.

[94] *Ibid* 67.

[95] *Ibid* 66.

[96] *Ibid.*

electronic payment systems.[97] The central bank in this scenario would allow the market to develop.[98] Despite a passive role, the central bank would need enough expertise to conduct research work.

On the other hand, the central bank may play an active role in developing and supporting electronic retail payment systems.[99]

The extent of involvement of BNM in electronic retail payments is more than just researching on retail payment systems. The market in Malaysia is too small and inefficient to allow the industries to act as the main party in developing electronic retail payment instruments.[100] Furthermore, the consumers are not well equipped with the knowledge and understanding of electronic retail payment systems and the risk factors are not well appreciated.[101]

BNM has given significant attention to the design and operation of and oversight of the payment systems, acknowledging its contribution to the stability of the financial system.[102] The development of the financial system and its concurrent technological demands have lead BNM to conclude that it should play an active role in its development.[103] This is not limited to large value payment systems but extends to retail payment systems.[104] BNM acknowledged that the development of electronic money

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[97] *Ibid* 67.

[98] *Ibid.* It is stated that the central bank should not issue any guidelines or regulations or even attempt to draft legislation unless there is substantial deficiencies in the market mechanism.

[99] *Ibid.*

[100] The CPSS recommends an efficient and mature market for the industry to be able to develop retail payment systems on its own accord. *See* 'Policy Issues for Central Banks in Retail Payments' 2003 (n 58) 13 - 15.

[101] *Ibid.*

[102] *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2000' at 181.

[103] *Ibid.*

[104] *Ibid.*

schemes poses new challenges to regulators[105] as the operation of the payment system will affect the smooth implementation of monetary policy and the stability of the financial system.[106] The participation of non-financial institutions as providers of retail payment such as electronic money is also a concern to BNM, due to the lack of a standard regulatory framework between financial and non-financial institutions that provide the services.[107] In dealing with these issues and to guard the risks that may occur BNM took the stance to be directly involved with regulating payment issues.[108] The amendments made to the CBA[109] and the formulation of the PSA[110] reflect BNM's policy to directly regulate payment systems, including retail in nature.

In ICT environment, the pace of financial innovation has intensified. It is imperative that BNM decides on whether a comprehensive regulatory framework is required for electronic money based on detailed scrutiny of various factors. One of practical considerations is resources. BNM would have to increase its resources in terms of expertise to implement a supervisory framework for electronic money.[111] At the same time, externalities of a comprehensive regulatory framework may discourage innovation.

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[105] *Ibid* 188.

[106] *See Penyata Rasmi Parlimen Dewan Rakyat 23 Jun 2003 DR.23.6.2003* (Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003) and 'Payment Systems Act 2003' Industry Briefing (n 66).
This view is also in line with other central banks as discussed above under this section.

[107] *Ibid.*

[108] BNM states its intention to be the sole authority responsible for payment system oversight. An effective regulatory framework for a safe and efficient payment system is crucial to avoid social and economic inefficiency which are important to safeguard public interest. *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2003' at 173.

[109] CBA section 4 (ca).

[110] *See* section III under B - 2 on PSA.

[111] As an emerging economy, BNM may not have all the necessary expertise on issues related to electronic money. However, as a central bank, it is being relied upon to provide information. *See* Lastra RM *Central Banking and Banking Regulation* (Financial Market Group United Kingdom 1996) 283 where the author argued that central banks in developing countries are frequently the only organisations that can be referred too.

Technology changes the way the central bank functions.[112] The advances in technology have rendered the inspection approach less relevant, emphasising greater reliance on market discipline.[113] BNM needs to identify the balance at which to pursue regulation of electronic money. An active role does not necessarily denote a comprehensive regulatory framework, which constantly monitors the operation of retail payments. It may also involve in providing guidance to the industries for further development of retail payment products.[114]

B. Regulatory Power of BNM on Electronic Money

The PSA has given wide powers to BNM to regulate electronic money schemes in Malaysia.[115] Before the enactment of the PSA, the repealed provisions under BAFIA also allocated wide powers to BNM to regulate electronic money.[116] This section examines the wide regulatory provisions under the BAFIA in relation to electronic money and the difficulties in applying its provisions, which led to its repeal. It will then examine the current payment system legislation, the PSA. This would include the wide provisions provided under this Act that may be applied by BNM in regulating retail payment instruments such as electronic money.

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[112] *See* Aziz ZA 'Impact of E-Banking and E-Commerce On Central Banking Functions' Governor of Central Bank of Malaysia Opening Remarks at the SEACEN Seminar in Kuala Lumpur Malaysia on 9 January 2001. *Available at* <http://www.bnm.gov.my> last visited February 2002.

[113] *Ibid.*

[114] Detailed rules and standard may be burdensome and ineffective. It can also be counter productive to the industries. To develop a new form of payment, industries that are providing it must be given the flexibility to experiment. *See* A Greenspan 'Fostering Financial Innovation: The Role of the Government' in Dorn JA (ed) *The Future of Money in the Information Age* (Cato Institute United States 1997) 45-50.

[115] *See* section III under B -2.

[116] *See* Chapter 1 section VI under B.

1. Regulatory Framework for Electronic Money Prior to Payment Systems Act 2003 (PSA)

Before PSA was enacted, BNM was given the power to authorise and regulate electronic money schemes through its main banking legislation, BAFIA. The power was not exclusive to electronic money schemes, but was applied to regulating electronic fund transfers in general.[117] With the enforcement of PSA, all provisions on electronic fund transfer under BAFIA have been repealed.[118]

Provisions of the BAFIA were invoked to regulate electronic money schemes, issuing authorisation to operators of electronic money schemes including non-financial institutions.[119] BAFIA was enacted to provide regulatory authority for BNM to issue licences and regulate institutions 'carrying on banking, finance company, merchant banking, discount house and money-broking businesses'.[120] The Act also provides for the regulation of institutions carrying on 'certain other financial businesses, and for matters incidental thereto or connected therewith'.[121]

The latter provisions in the Preamble of BAFIA extends BNM's power to non-financial institutions that carry on a business that may have an effect on banking or

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[117] *See* Chapter 1 section VI under B.

[118] *See* Banking and Financial Institutions (Amendment) Act 2003 section 2, 7 and 8.

[119] For example, authorisation was given to MEPS, a company owned by a consortium of local financial institutions prior to the operation of MEPS Cash. However, BNM also has given authorisation to Rangkaian Segar Sdn Bhd, a non-financial institution company prior to the operations of Touch 'n go cards. *Sources from* Payment Systems Department, BNM.

[120] As provided for in the Preamble of the BAFIA.

[121] *Ibid.*

finance matters.[122] BNM may also issue further regulations on electronic fund transfer systems under the same Act in repealed section 116(2)(e)(ii) and (f).[123]

Under the BAFIA repealed section 119, the electronic fund transfer that has been authorised by BNM is also 'subject to such modifications and alterations as it may deem necessary, desirable or expedient, and may in giving any authorisation impose such restrictions, limitations or conditions as it may deem fit'.[124] BNM can inspect the premises and all equipment and documents that are related to the transaction of the electronic fund transfer systems as well.[125]

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[122] BAFIA repealed section 119(1) states: -

> No person shall-
> (a) commence to operate any electronic fund transfer system; or
> (b) where such person has been operating any electronic fund transfer system immediately before the effective date, continue to operate such system for a period exceeding ninety days after the effective date, or such further period as the Bank may specify,
> unless he has submitted for the approval of the Bank the scheme of operations of the system, and the rules, contract, bye-laws or other documents relating to the rights, duties and liabilities of the persons participating in the system, and obtained the authorisation in writing of the Bank to operate the system.

[123] BAFIA section 116(1) and repealed section 116(2)(e)(ii) and (f) provide: -

> (1) The Bank may, with the approval of the Minister, from time to time, make such regulations as may be necessary or expedient for giving full effect to the provisions of this Act, for carrying out or achieving the objects and purposes of this Act or any provisions thereof, or for the further, better or more convenient implementation of the provisions of this Act.
>
> (2) Without prejudice to the generality of subsection (1), regulations may be made -
> (e) to provide for the imposition of duties, liabilities, responsibilities, restrictions, limitations, prohibitions or sanctions, or the conferment of rights, privileges, benefits or indemnities on -
> (i) .....
> (ii) the parties to any electronic fund transfer system set up, or operating, in Malaysia;
> (f) to provide for the setting-up, operation, or administration of, or any other matter whatsoever relating to, electronic fund transfer systems;

[124] BAFIA repealed section 119(3).

[125] BAFIA repealed section 119(5).

It should be noted that BNM has not gone beyond granting written authorisation prior to the operation of the electronic money scheme.[126] BNM has not invoked its wide provisions on electronic fund transfers under repealed section 119 to regulate the operation of authorised electronic money schemes using BAFIA.[127] Repealed section 116[128] permitting further regulation on electronic money scheme has also never been invoked.

Two observations can be made on electronic fund transfer of BAFIA. Firstly, BAFIA attempts to include all persons,[129] including non-financial institutions, operating an electronic fund transfer system.[130] Secondly, BAFIA attempts to include all electronic retail payment schemes under the definition of 'electronic fund transfer' system.

In 1996 to 1998, there were internal discussions between BNM and the Attorney General Office of Malaysia on the applicability of BAFIA repealed section 119 to

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[126] BAFIA repealed section 119(1).

[127] BAFIA repealed section 119 has nine subsections, which among others, provides that BNM may inspect the equipment, premises and documents of the operator that has been given authorisation. BNM may also order the operator to modify the electronic fund transfers scheme.

[128] *See* (n 123) for provisions under BAFIA repealed section 116(2)(e)(ii) and (f).

[129] BAFIA section 2 on definition of 'person': -

> "Person" includes an individual, any corporations, statutory body, local authority, society, trade union, co-operative society, partnership and any other body, organisation, association or group of persons; whether corporate or unincorporated;

[130] BAFIA section 2 on definition of 'electronic fund transfer' (now repealed) provides: -

electronic money schemes.[131] It was suggested[132] that as new payment instruments with sophisticated mechanisms develop, the law faced increasing difficulties not just with the applicability of the provisions, but also in choosing whether or not to invoke the provisions of BAFIA. As there are no provisions that are specific to electronic money schemes in BAFIA and the application of provisions on electronic fund transfer to electronic money schemes can lead to ambiguity.[133]

Concerns were also raised by system operators on the ambiguity of the definition of electronic fund transfer under section 119 (now repealed). For example, the operator that operates the barter system program known as Bartercard[134] argued that their system is not within the meaning of 'electronic funds transfer' under the repealed section[135] as the program involves exchanges of goods and services by having trading cards to buy and sell goods and services with each other.[136] The exchange system's primary function is to hold the 'Trade Credits' of its members in individual accounts in a trade account.[137]

> "electronic fund transfer" means any transfer of funds (other then a transaction originated by cheque, draft or similar instrument) which is initiated, activated or commenced, regardless at which stage it was initiated, activated or commenced, through an electronic terminal, telephonic instrument or computer or magnetic tape or other storage devices so as to order, instruct or authorise any person to debit or credit an amount, and includes point-of-sale transfers, direct deposits or withdrawals of funds, automated teller machine transactions, and transfers initiated, activated, commenced or transmitted by telephone.

[131] *Sources from* the Legal Department, BNM.

[132] The Attorney General Office made this suggestion during the time when the MSC project was implemented and electronic money was identified as one of the applications to be developed for the purpose of ICT enhancement. *Sources from* the documents of the Smart Card Team, BNM. This Unit was established in 1996 when the government identified BNM as the lead agency to develop the National Multipurpose Card under the MSC project. *Sources from* Payment Systems Department, BNM.

[133] *Sources from* Payment Systems Department, BNM.

[134] Bartercard originated from Australia and is now in operation in 16 countries, including Malaysia. *Available at* 'About Bartercard' <http://www.bartercard.com/au/> last visited July 2005.

[135] *Sources from* Payment Systems Department and Legal Department, BNM.

[136] As provided in the 'Bartercard Rules of The Trading Programme' provided by the company to BNM upon its justification that the program is not within the purview of electronic fund transfer under BAFIA. *Sources from* Legal Department, BNM.

[137] *Sources from* Legal Department, BNM.

When a transaction occurs, the operator will debit the buying member's trade account and credit the trade account of the selling member.[138]

BNM was of the view that the trade exchange utilises an accounting unit to record the value of transactions and would fall under the term 'funds' for the purposes of classifying the operator's activities as operating an electronic fund transfer system.[139] The Trade Credit is argued to have monetary value within the barter trade system in that it is the only recognisable and accepted unit of value for the buying and selling of goods between members.[140]

Repealed section 119 on electronic fund transfer was applicable to electronic money schemes as long as the system has satisfied three following elements: -[141]

i. There must be a transfer of funds;

ii. The transfer is initiated, activated or commenced through an electronic terminal, telephonic instrument or computer or magnetic tape or other storage devices; and

iii. There is an instruction to debit or credit any amount to another person.

2. Current Regulatory Framework of PSA

This section examines the current payment systems legislation, the PSA. Provisions of this Act related to payment systems and payment instruments will be discussed. This includes the current regulatory structure of electronic money put in place by BNM.

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[138] *Ibid.*

[139] Legal opinion issued by the Legal Department, BNM in relation to Bartercard. *Sources from* Legal Department, BNM.

[140] *Ibid.*

[141] Legal opinion on BAFIA section 119 (now repealed). *Sources from* Legal Department, BNM.

Improvements in regulation of electronic retail payment systems are crucial for the smooth functioning of payment systems.[142] As payment systems evolve, BNM needs to facilitate the safety and efficiency of the systems to safeguard public interest.[143] PSA has given BNM the mandate to oversee and facilitate the development.[144] It will also promote and liberalise the environment for payment systems in Malaysia.[145]

PSA takes the form of a new legislation specifically to accommodate payment system issues. The PSA came into force on 1 November 2003.[146] The legislation also brought about amendments to CBA[147] and BAFIA.[148] The PSA provides for the finality of payment and netting[149] for any payment or settlement instruction sent through a 'designated payment system' (DPS).[150] Further, the Act installs wide powers to BNM to regulate payment systems and payment instruments, which may include electronic money.

The PSA prescribes the procedure for considering payment systems: -

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[142] *See* Aziz ZA 'Promotion of Electronic Banking and Payments' Speech by Governor of Central Bank of Malaysia at the Launching Ceremony of Electronic Banking: The Way Forward organised by Association of Banks in Malaysia in Kuala Lumpur on 8 May 2003. *Available at* <http://www.bnm.gov.my> last visited October 2003.

[143] *Ibid.*

[144] *See* 'The Payment Systems Act 2003' Press Release from Central Bank of Malaysia 16 October 2003. *Available at* <http://www.bnm.gov.my> last visited October 2003.

[145] *Ibid.*

[146] *See Warta Kerajaan Malaysia 9 Oktober 2003 P.U. (B) 308 Akta Sistem Pembayaran 2003 – Penetapan Tarikh Permulaan Kuat Kuasa* (Malaysia Government Gazette 9 October 2003 P.U. (B) 308 Payment Systems Act 2003 – Appointment of Date of Coming Into Operation).

[147] Only amendments related to payment systems will be discussed. *See* Central Bank of Malaysia (Amendment) Act 2003 section 3, on the amendment made to the principal objectives of BNM to include its roles on payment systems. *See* also section III under A for the provisions provided under the CBA section 4 (ca) on payment systems.

[148] For the purpose of this chapter, only amendments made in relation to electronic fund transfer under BAFIA are discussed. *See* Banking and Financial Institutions (Amendment) Act 2003 sections 2, 7 and 8.

[149] PSA sections 16 to 22. The scope of this thesis does not cover issues related to finality of payment and netting arrangement.

[150] PSA section 17 (1). Definition of DPS is discussed below.

i. All operators of payment systems must receive a written notification from BNM prior to operating the system.[151] This written notification even though described in the Act as not being an approval or endorsement from BNM, [152] requires the operator to submit certain documents and information as prescribed by BNM together with a payment of fees prior to the issuance of the said notification.[153] BNM may also prohibit the operator from operating the payment system if the system is considered as detrimental to the reliable, safe and smooth operation of the payment systems in Malaysia[154] or due to the interest of the public.[155]

ii. BNM may designate a payment system as a DPS[156] if BNM is of the opinion that the payment system may pose systemic risk[157] or the designation is necessary to protect the interest of the public.[158] In order to determine whether the payment system should be designated, BNM may inspect the 'premises, equipment, machinery, apparatus, books or other documents, or accounts and transactions relating to the payment system, upon giving notice to the operator'.[159] In the event that BNM 'designates'

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[151] PSA section 5(1).

[152] PSA section 5(2).

[153] PSA section 5 (3).

[154] PSA section 5(4)(a).

[155] PSA section 5(4)(b).

[156] PSA section 2 provides: -

> "designated payment system" means a payment system prescribed as a designated payment system under subsection 6(1).

Section 6(1) of the same Act provides that BNM may designate a payment system by an order published in the Gazette.

[157] PSA section 6(1)(a).

[158] PSA section 6(1)(b).

[159] PSA section 6(2).

a payment system, it would mean that the operator of the system is subjected to various stringent provisions under the PSA.[160]

The PSA enables BNM to designate a payment instrument as a 'designated payment instrument'[161] (DPI) and be regulated by BNM.[162] The issuer of a DPI, which has to comply with PSA section 25(1), is subject to various requirements from BNM. This would include submission of documents and information as prescribed by BNM,[163] payment of fees[164] and to obtain a written approval from BNM prior to issuing the DPI.[165] BNM also has the power to require the issuer to modify and alter all or any of the documents submitted by the issuer[166] and also to impose any restriction, limitations or

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[160] PSA section 7(1) provides that where a payment system is prescribed as a designated payment system, the operator shall comply with all the provisions in the PSA Part II under Chapter 2 (section 9 to 15). This would include powers of BNM to regulate on matters related to disqualification of the director, the appointment of the chief executive officer, governance and operational arrangements and also on any changes made to the payment system.

[161] PSA section 2 provides: -

> "designated payment instrument" means a payment instrument prescribed as a designated payment instrument under section 24(1).

PSA section 24(1) provides: -

> Where the Bank is of the opinion that -
> (a) a payment instrument may be of widespread use as a means of making payment and may affect the payment systems of Malaysia; and
> (b) it is necessary to protect the interest of the public or it is necessary to maintain the integrity, efficiency and reliability of a payment instrument,
> the Bank may prescribe such payment instrument as a designated payment instrument.

[162] PSA section 24 (2) provides that 'where a payment instrument is prescribed as a designated payment instrument, the issuer of that designated payment instrument shall comply with the requirements of subsection 25(1) within such period as the Bank may specify'.

[163] PSA section 25(1)(a).

[164] PSA section 25(1)(b).

[165] PSA section 25(1)(c).

[166] PSA section 25(2)(a).

condition as BNM may deem fit.[167]

Since the enforcement of the Act, BNM has issued three Gazette Orders under the PSA. The first Order is based on PSA section 24(1) which was enforced on 1 November 2003[168] to designate charge card,[169] credit card,[170] electronic money and any combination of the above payment instruments. Electronic money is defined in the Gazette Order in paragraph 2 (c) as: -

> Electronic money that is any instrument, whether tangible or intangible that -
>
> (i) stores funds electronically in exchange of funds paid to the issuer; and
>
> (ii) is able to be used as a means of making payment to any person other than the issuer.

The second Order[171] issued under PSA requires the operator of payment system who is seeking written notification from BNM to operate a payment system to submit documents and information prior to operating the system. The potential issuers of DPI are

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[167] PSA section 25(2)(b).

[168] *Warta Kerajaan Malaysia 23 Oktober 2003 P.U. (A) 398 Akta Sistem Pembayaran 2003 – Perintah Sistem Pembayaran (Instrumen Pembayaran Yang Ditetapkan) 2003.* (Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003).

[169] *Ibid.* Paragraph 2 (a) of the Gazette Order described charge card as 'a payment instrument which indicates a line of credit granted by the issuer to the user and any amount of the credit utilised by the user must be settled in full on or before a specified date, without any extended credit'.

[170] *Ibid.* Paragraph 2 (b) of the Gazette Order described credit card as 'a payment instrument which indicates a line of credit or financing granted by the issuer to the user and where any amount of the credit utilised by the user has not been settled in full on or before a specified date the unsettled amount may be subject to interest, profit or other charges'.

[171] This Order was enforced on 1 November 2003. *See Warta Kerajaan Malaysia 23 Oktober 2003 P.U. (A) 397 Akta Sistem Pembayaran 2003 – Perintah Sistem Pembayaran (Pengemukaan Dokumen dan Maklumat) 2003.* (Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003).

also subjected to the submission of documents under this Order prior to issuing the DPI.[172]

The third Order is the requirement for payment of fee.[173] This Order specifies that fees[174] have to be paid by the operator to BNM upon seeking written notification to operate a payment system. Potential issuers of DPI are also subjected to the payment of fees under this Order.[175]

As at end of 2004, a total of 14 payment systems operators were given written notification for operating payment systems, and approvals were given to three issuers of DPI.[176] No payment system has been designated by BNM under PSA.[177]

C. Contribution to the Development of Electronic Money by BNM

BNM has actively participated in the development of payment systems in Malaysia. It is a member of the Executives Meeting of East Asia-Pacific Central Banks

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[172] *Ibid.* There are common documents to be submitted by both the operator of payment systems and issuer of DPI. Such documents are related to the establishment of the operator's or DPI issuer's company which includes: -

i. The Memorandum and Article of Association;
ii. Latest audited financial statement;
iii. The principles business and field of operations;
iv. Details of all its directors and chief executive officers;
v. If a company, the details of its substantial shareholders;
vi. If not a company, details of its shareholders or partners; and
vii. Any approval, authorisation, licence or permit from regulatory authorities.

Other supporting documents would depend on whether the application is for operating a payment system or to issue a DPI. These documents will be related to the procedures, rules and measures specifically related to the payment system in place or to the DPI.

[173] This Order was enforced on 1 November 2003. *See Warta Kerajaan Malaysia 23 Oktober 2003 P.U. (A) 396 Akta Sistem Pembayaran 2003 – Perintah Sistem Pembayaran (Fi) 2003.* (Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003).

[174] *Ibid.* The fee specified is RM 500.

[175] *Ibid.* The fee specified is also RM 500.

[176] Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2004' at 221

[177] *Ibid.*

(EMEAP),[178] while through the Asian-Pacific Economic Corporation (APEC) Working Group it has contributed towards the Electronic Financial Transaction System (E-FiTS).[179] Through the participation in the latter, BNM has focused on electronic banking initiatives such as reducing the digital divide. Another issue on which BNM has given much emphasis is the promotion of electronic financial services under MSC, including the use of MyKad and Bankcard.[180]

BNM actively develops retail payment instruments through its responsibility to promote electronic money under the National Multipurpose Card.[181] BNM also leads various payment system committees which deal with electronic money.

1. Steering Committee of the National Multipurpose Card Project

The responsibility of BNM did not stop at the issuance of the Concept Request for Proposal for the National Multipurpose Card. BNM was appointed to chair[182] the Steering Committee of the National Multipurpose Card.[183] This committee, the highest in ranking, directly reports to the Prime Minister of Malaysia, who is the Chairman of the MSC Implementation Council.[184] As chairman of the Steering Committee, BNM is

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[178] *See* Chapter 3 section V.

[179] E-FiTS was established in 2000 and meets quarterly to examine how APEC countries could promote the development of electronic financial transactions. *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2002' at 188.

[180] *Ibid.*

[181] *I.e.* the MyKad and Bankcard. *See* section II under A.

[182] The chairman is the Governor of BNM. *See* 'Progress Update of Multipurpose Card Project to Governor, BNM' on 12 June 1997. *Sources from* Payment Systems Department, BNM.

[183] *See* National Registration Department on 'Government Multipurpose Card'. *Available at* <http://www.jpn.gov.my/gmpc/GMPC.htm> last visited July 2005.

[184] *Ibid.*

responsible to ensure the development, smooth and successful implementation of the GMPC and the PMPC,[185] both having the electronic money application.

In order to facilitate its role in monitoring the progress of the card, BNM has had to ensure a common platform through coordination and resolution of issues relating to the national multipurpose card platform.[186] It can also be discerned that as chairman of the committee, BNM's role also encompasses the coordination of the public and private sectors to ensure a successful implementation of the card, which has both the government and payment applications.[187]

2. National Payments Advisory Council (NPAC)

The NPAC is yet another establishment set up by BNM to fulfil its role in developing the retail payment system. It was established in 2001[188] as part of BNM's function in coordinating the implementation and transmission of monetary objectives and maintaining public confidence in domestic financial systems.[189] This coordination has been shown through the effort taken by BNM in ensuring participation and input from members of NPAC in formulating the PSA.[190]

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[185] Under this committee structure, PMPC is led by MEPS Sdn. Bhd. *See* National Registration Department on 'Government Multipurpose Card'. *Available at* <http://www.jpn.gov.my/gmpc/GMPC.htm> last visited July 2005. It should also be noted that MEPS Sdn. Bhd. is already within the purview of BNM. *See* Table of the 'Overview of the Malaysian Payment System' at 'Bank Negara Malaysia Annual Report 2000' (n 102) 180.

[186] *See* 'Progress Update of Multipurpose Card Project to Governor, BNM' (n 182).

[187] GMPC has both the government and electronic money applications while PMPC has payment applications, which also include electronic money. *See* section II under A.

[188] The NPAC was set up in 1993. *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2001' at 181.

[189] *See* 'Payment Systems in EMEAP Economies' (n 71) 299.

[190] *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106).

The membership of the NPAC comprises the representatives of the Bank of Japan, Hong Kong Monetary Authority (HKMA), the Ministry of Energy, Communications and Multimedia (MECM), the Malaysian Administrative Modernisation and Planning Unit (MAMPU), the Security Commission, the Malaysian Electronic Payment System Sdn. Bhd. (MEPS), the Association of Banks Malaysia, the Association of Merchant Banks Malaysia and the General Insurance Association Malaysia.[191] The NPAC has been entrusted with the following roles: -[192]

i. To provide input in addressing the short and long term payment systems infrastructure needs;
ii. To monitor and keep abreast with the development of payment systems locally and abroad;
iii. To help coordinate various initiatives on payment systems in order to maximise utilisation of resources and avoid duplication of efforts;
iv. To provide inputs on the formulation of standards, where necessary, for the application of new technology in payment systems; and
v. To provide the respective agencies with perspectives on payment systems matters.

The NPAC, with BMN as its chairman, is also supported by the Payment Systems Policy Working Group, which is BNM's internal consultative body that discusses policy issues concerning payment systems.[193] The members of this working group are the relevant Heads of Departments in BNM, with issues related to payment systems.[194]

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[191] *See* 'Bank Negara Malaysia Annual Report 2001' (n 188) 181.

[192] *Ibid.*

[193] *See* 'Payment Systems in EMEAP Economies' (n 71) 299.

[194] *Ibid.*

IV Theoretical Considerations Toward the Regulation of Electronic Money

In Malaysia, electronic retail payment such as electronic money has not been as successful as anticipated.[195] The question then arises as to whether it is necessary to develop a comprehensive regulatory framework for electronic money. However, Malaysia has chosen to develop a comprehensive legal framework for electronic money and has entrusted BNM, as the central bank, with wide powers to regulate electronic money as a payment instrument through its payment system law.[196] The challenge for Malaysia now is to enforce and implement the regulatory framework that has been set up.

This section considers a number of regulatory theories to evaluate the normative basis of Malaysia's regulation of electronic money. It is too early to conclude whether BNM has successfully implemented the PSA on electronic money without jeopardising its further development.[197] It would also be premature to consider whether existing schemes will discontinue their services to the public due to the strict regulatory policy by BNM. It is essential to understand the rationales and implications that the regulatory policies may have in view of the theories of regulation and the actual outcome so far.

A. Regulatory Strategies

There are various regulatory strategies that can be applied in regulating certain industries or instruments.[198] Electronic money, which is a payment instrument created and based on the development of ICT, has created various approaches that can be taken to

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[195] In comparing the percentage of value and volume of electronic money in 2003 and 2004, there was only an increase of 0.01% on the value and an increase of 7.3% on the volume. *See* Table 10.2 on Non-Cash Payment in Malaysia in 'Bank Negara Malaysia Annual Report 2004' (n 176) 223.

[196] *See* section III under B - 2.

[197] PSA was enforced on 1 November 2003. *See* Malaysia Government Gazette 9 October 2003 P.U. (B) 308 Payment Systems Act 2003 – Appointment of Date of Coming Into Operation (n 146).

[198] *See* Baldwin R and Cave M *Understanding Regulation – Theory, Strategy, and Practice* (Oxford University Press New York 1999) 34.

regulate.[199] For Malaysia, it is crucial that any regulatory approach taken on regulating electronic money takes into consideration the public's interest.[200]

1. Command and Control

The essence of this type of regulation is an exercise of influence by imposing standards backed by criminal sanction.[201] Regulations are equipped with rule-making powers and it is common for regulatory standards to be set by government departments through primary and secondary legislation and then be enforced by regulatory bureaucracies.[202]

Command and control involve the setting of standards within the rule. It often entails some kind of licensing process to screen entry into activity, set out to control not only the quality of service or the manner of production, but also the allocation of resources, products or commodities and prices charged to consumers or profits made by enterprises.[203]

2. Self-Regulation and Enforced Self-Regulation

Self-regulation involves an organisation or association developing a system of rules that monitors and enforces against its own members or a larger community.[204] Self-

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[199] *See* Chapter 3 section IV on the approach taken by certain developed countries and emerging economies.

[200] *See* section V.

[201] *See Understanding Regulation – Theory, Strategy, and Practice* (n 198) 35.

[202] *Ibid.*

[203] *Ibid.*

[204] *Ibid* 39.

regulation can be classified as 'enforced' when it is subject to a form of governmental structuring or oversight supervision.[205]

3. Incentive Based Regimes

This regulatory strategy works on the basis that the regulator imposes certain incentives or penalties to influence the behaviour of the industry players.[206] For example, taxes can be imposed to penalise the industry, or financial assistance can be given to encourage certain positive development from the industry.[207]

4. Market Discipline

Market discipline purports to create an incentive structure that will encourage the market to take safer and sounder actions.[208] Market discipline is when part of the risk in a particular industry is allocated to the stakeholders in the market who monitor the activities of the market.[209] For example, in the banking industry, the stakeholders sanction the banks by withdrawing investments or causing reputational loss when imprudent activities of the bank are detected, thus encouraging banks to manage prudently with sound investment decisions.[210]

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[205] *Ibid.*

[206] *Ibid* 41.

[207] *Ibid* 41-42.

[208] *See* Yokoi-Arai M 'The Balance of Market Discipline in Financial Regulation' in *International Seminar - The Breakdown of Public & Private Law Dichotomy in Commercial and Financial Law* (Finansierings – OCH Kommersiellrättsliga Studier 4 Lund Stockholm 2003) 81, 81.

[209] *Ibid* 82

[210] *Ibid.*

5. Disclosure Regulation

Disclosure rules usually prohibit the supply of false or misleading information. A mandatory disclosure may occur whereby the operator must reveal certain important information such as pricing or quality of services to the public.[211] Disclosure regulation may also involve the supply of information to the public directly by the scrutinising regulator or governmental official.[212]

Disclosure regulation allows consumers to make decisions on the acceptability of the processes involved in producing the goods or in providing the services.[213]

6. Direct Action

The regulator can also use their direct resources to achieve desired results by taking direct action.[214] Rather than setting and enforcing standards, the government or the authorities responsible can use their own resources to provide premises or certain equipment, which can be leased to the industries.[215]

7. Rights and Liabilities

Instead of imposing certain rules or standards on the industry, legislation could be set to allocate rights to the public to encourage socially desirable behaviour.[216] When this is the case the industry that provides the product would be deterred from providing goods

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[211] *See Understanding Regulation – Theory, Strategy, and Practice* (n 198) 49.

[212] *Ibid.*

[213] *Ibid.*

[214] *Ibid* 50.

[215] *Ibid.*

[216] *Ibid* 51.

or services which are not based on the allocation of rights. The provider could face legal suit by the public if such a product is not consistent with the right that has been allocated to them by the legislation.[217]

8. Public Compensation/Social Insurance Schemes

Economic incentives to avoid undesirable behaviour can also be created through schemes of compensation or insurance premiums linked to performance records.[218] For example, in an insurance-based scheme the workers surrender their rights to take legal action against the employers for damages but in return are entitled to statutory compensation, often amounting to full payment of lost earnings plus the cost. The employers' premiums in this case would depend on their organisations' past claims experience.[219]

9. Procedural Dimension of Regulation

The procedural dimension of regulation permits the regulator to have a certain degree of discretion in line with the informal agreement of the stakeholders. This power would be provided on the basis that the regulator would undertake *ad hoc* problem-solving.[220] Regulation is policy-oriented, following the overall policy framework of the government.[221] Along the procedural dimension, even if the country followed the principle that basic legal rules have to be established by legislation, administrative rules,

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[217] *Ibid.*

[218] *Ibid* 53.

[219] *Ibid.*

[220] *See* Kahler K 'Institution-building in the Pacific' in Mack A and Ravenhill J (eds) *Pacific Cooperation: Building Economic and Security Regimes in the Asia-Pacific Region* (Allen & Unwin 1994) 18.

[221] Pistor K and Wellons PA (eds) *The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (Oxford University Press New York 1998) 4.

decrees and informal guidance often prevail.[222] In this situation, the industries have to adapt their business activities to a more discretionary law.[223]

B. The Approach Taken by BNM in Regulating Electronic Money

Under the PSA, BNM has made electronic money a DPI[224] and has subjected it to requirements under the law prior to issuance of the instrument[225] and continuous monitoring.[226] There is also the requirement to incorporate, in the event that the issuer of the electronic money is not a body corporate, as a company under the Companies Act 1965.[227] BNM has the power to conduct examination, with or without prior notice, the premises, equipment, books, accounts and other documents or transactions of the issuer.[228] This includes the offices of the issuer inside or outside of Malaysia.[229]

In Malaysia, the process of legal reform was implemented during the years after its independence in 1957.[230] If the history of the legal development of Malaysia is to be

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[222] *Ibid 6.* It is also argued that in Asia, the courts were limited in their review of administration action, whether by their own choice, by law or by the raw political power of the executive.

[223] *Ibid.*

[224] *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 168).

[225] Approval is subjected to requirement to pay fees and also submission of documents. *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003 (n 173) and Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 171). This also includes the requirement of governance arrangement under PSA section 27, and operational arrangement under PSA section 28.

[226] This includes BNM's power to be informed of any changes to the approved DPI and also to prohibit the changes or make other changes as BNM may specify. *See* PSA section 29 (1), (2) and (3).

[227] PSA section 30 (1) also provides that BNM can prohibit the issuer to issue the payment instrument in the event that the issuer did not comply with BNM's requirement to incorporate as a company.

[228] PSA section 34.

[229] *Ibid.*

[230] For example, the Malaysia Companies Act was enacted in 1965, borrowing heavily form Australia, which in turn relied on English law. *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 4.

observed, it has been argued that Malaysia, along the allocative dimension, that the state, rather than the market has played the most important and even dominant role. When the state controls were extensive, the legal framework for the market transactions and resources allocated played only a marginal role for the economic transactions and by inference for economic development.[231] The framework is usually superseded by new rules that expand the control of the state and provide substantial discretion for state agents.[232] Along the procedural dimension, the same overlay of discretionary law that augmented the state's allocative powers also displaced the transplanted formal legal processes for making, administering and enforcing the law.[233]

It has been observed that in Asia, the economic strategies that were adopted by policy makers increasingly emphasised a direct state control role in the economy and the legal system adjusted to accommodate this role.[234] This legal process still stands in formulating the PSA in Malaysia. The changes or rather the new law on payment systems were primarily top-down, induced by government policy, where economic policies played the key role in initiating the trend first.[235]

In around 1980, there were changes in the development of economic strategies in Asia, which prompted legal reforms. As bureaucratic controls relaxed, the scope of the market increased, which created greater competition. [236] It is recognised that state tutelage

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[231] *Ibid* 5.

[232] *Ibid*.

[233] *Ibid* 6.

[234] *Ibid* 7. During the early period of the study made which begins from 1960.

[235] The objective of the PSA is based on BNM's policy to regulate payment systems as it acknowledges that the efficiency of payment systems plays an important part in economic development. *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106).

[236] Countries that were involved in the study are China, India, Japan, Republic of Korea, Malaysia and Taipei, China. *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 11.

increasingly turned from a source of support into a source of constraint.[237] However, it has also been acknowledged that as the market develops, it also creates the need for new forms of state intervention in the form of regulatory oversight of market.[238] BNM's regulatory powers under the PSA[239] seem to follow this new form of state intervention.

Even though it is accepted that the law and legal institutions in Asia changed in response to economic policies,[240] BNM has to recognise that law and legal institutions should not be viewed, as technical tools that once adopted will produce the desired outcome.[241] The point that law is embedded in culture has often been made, especially with respect to Asian economies.[242] Effective law has to be embedded in the overall economic policy framework. Law cannot be transplanted without due consideration for the relevant economic framework within which they shall operate.[243] It also suggests that law reform projects should not be assessed in isolation, but within the broad context of economic policies.[244] Thus, the formulation of the PSA should include the process of public consultation, as they will be directly affected within the framework established.

There are three core theories that have greatly influenced the current thinking about law and socio-economic development in their tendency to converge both with each other and between economies or cultures. First, there is a wide range of evolutionary theories predicting that law develops over time and in interaction with changes in the

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[237] *Ibid.*

[238] *Ibid* 12.

[239] *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106).

[240] This conclusion includes analysis made on Malaysia. *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 18.

[241] *Ibid* 19.

[242] *Ibid* 13. The comparison between 'Asia' and the 'West' tend to focus on differences in culture, history and tradition. These differences and their implications for legal systems should not be underestimated.

[243] *Ibid* 19.

[244] *Ibid.*

socio-economic environment.[245] In relation to legal development, the evolutionary theory refutes any idea of a one-directional or coherent development of legal norms. Instead, it argues that the historical and political situation of a country will influence and shape development.[246] As these environments are and continue to be in flux, there will always be an element of unpredictability to legal development.[247]

Another argument of the evolutionary approach is that it has been driven by new insights, in some cases by a veritable paradigm change or by the importation of outside, foreign rules and principles.[248] The evolutionary nature of a legal system of a particular country is said to obscure the distinction between the creation of the law, such as jurisdiction and legislation, and the application of the law, creating a conflict between a system of case law and the ideal of the rule of law.[249] This is because the application of the law will depend on how it is interpreted by judges which are again affected by evolutionary processes.[250]

Evolutionary theory has been used to study the laws of a country and is used as a tool to decide whether the current laws are adequate and how to amend deficient rules.[251] For example, in regulations related to payment transactions, where both individuals and institutions are involved, the evolutionary analysis on cooperation between two parties is

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[245] *Ibid* 34.

[246] *See* Zumbansen P 'Legal Evolution and European Harmonisation of Company Law: How Many Variables are Allowed' Canada Research Chair in Transitional and Comparative Law of Corporate Governance University of Toronto Canada 2004.
Available at <http://www.law.harvard.edu/students/orgs.pdf> last visited March 2006.

[247] *Ibid.*

[248] *Ibid.*

[249] *See* Baumgarth WP 'Hayek and Political Order: The Rule of Law' Vol. 2 No. 1 *Journal of Libertarian Studies* 11-28 (1978).

[250] It is argued that in analysing the law, a person is affected by his own background, the literature that he applies and the development of his various preferences. *See* Jones OD 'Evolutionary Analysis in the Law: Some Objectives Considered' 67 *Brooklyn Law Review* 207 (2002).

[251] *See* Parekh NP 'The Evolution of Cooperation, the Study of Law and the Ordering of Legal Regimes' 37 *University of Michigan Journal of Law Reform* 909 (2004).

important in order to understand the implications and challenges that the legal regimes may face in governing such transactions.[252]

The second theory views cultural factors as the major determinants for legal systems.[253] Law and legal evolution are seen as part of an idiosyncratic historical development of a country, and they are determined by various factors such as culture, geography, climate and religion.[254] In order to recognise development in law, the cultural practices that influence the development has to be acknowledged.[255] In Asia, it has been argued that there is a cultural tradition that individual rights are less important than the general interest of the community.[256] As such, the government may take an interventionist approach and control the relation between citizens, and the law may be used as a tool to achieve economic development rather than as a regulator of private relations, as is the case in a *laisse-faire* environment.[257]

In applying the cultural theory in Asia, the fact that government plays an interventionist role in developing the law cannot be interpreted as a 'universal Asian value' given the diverse religious and cultural influences in Asia.[258] A proper understanding of the law in Asia requires, not only the knowledge of the formal provision of the law but an understanding of informal practises underlying these laws, such as customary and religious norms, and the influence of moral and cultural attitudes

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[252] *Ibid.*

[253] *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 35.

[254] *Ibid.*

[255] *See* Fagan III JF 'Intelligence and Process: A Theory of Intelligence as Processing - Implications for Society' 6 *Psychology, Public Policy and Law* 168 (2000).

[256] *See* Glazebrook S 'The Role of the Rule of Law in Asian Economic Crisis' Simpson Grierson Auckland New Zealand (Immediate Past President Inter-Pacific Bar Association) 1999. *Available at* <http://www.ipba.org/membersonly/papers/documents/glazebrook.pdf> last visited March 2006.

[257] *Ibid.*

[258] *See* 'Asian Values Revisited' The Economist 25 July 1998.

regarding these laws.[259] However, there is some acceptance that there are certain social characteristics, which differentiate Asia from the West.[260]

Finally, utilitarian theorists see law as an instrument to be used to promote economic development.[261] Law is viewed not as a result of socio-economic development, but as a tool for governments to initiate and shape economic development. Law can and should be designed to enhance efficiency and to reduce transaction costs, ultimately promoting growth.[262] This theory assumes that legal change has a direct impact on the behaviour of economic agents and therefore on economic development.[263]

The utilitarian theory has been argued to be the most influential political theory and supports the idea of justice for the maximisation of utility.[264] Utilitarian theory is considered to be flexible and may take a variety of forms.[265] This flexibility has been criticised for its lack of determinacy.[266] The main issue is how this theory is to reconcile between the utility at the political level and the personal level *i.e.* the individual citizen of the country.[267] The utilitarian theory asserts that legal principle should be made for the 'greatest good' of the 'greatest number'.[268] The tension between utilitarian promotion of

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[259] *See* Kamarul B 'Reforming Economic Law in Asia-Pacific Region' 6 *Australian Journal of Corporation Law* 93 (1996).

[260] *See* 'Asian Values Revisited' (n 258).

[261] *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 35.

[262] *Ibid.*

[263] *Ibid.*

[264] *See* Cross G 'A Theory of Impartial Justice' 21 *Oxford Journal of Legal Studies* 129 (2001).

[265] *Ibid.*

[266] *Ibid.*

[267] *Ibid.*

[268] *See* Whincop M 'Three Positive Theories of International Jurisdiction' 24 *Melbourne University Law Review* 379 (2000).

the general good[269] and the constraints imposed on individual rights is the foremost criticism put forward of this theory.[270] The utilitarian reasoning treats humans as objects or means and fails to respect their individual needs, as the main aim of a legislator under this theory is how to maximise the general satisfaction of the people.[271]

However, not all public goods threaten individual rights.[272] Certain common goods are desired by all members of society. Goods such as the rights and liberties, opportunities and powers, income and wealth are describe as 'primary' because they are means to any end an individual might have.[273]

The theories on law reform view the process of change as an evolutionary process that interacts with social and economic development.[274] Malaysia is seen to prefer the utilitarian theory compared to the evolutionary process. The evolutionary process is argued not suitable to Malaysia especially in developing new areas of laws because it takes into consideration historical and political situations, which may not be desirable for policies that are directed by the government.[275] For example, in areas related to Islamic banking law, the evolutionary process of Malaysian courts is deemed too long to develop the sphere through case law. The utilitarian theory, which argues that law may be used as a tool to enhance efficiency, is therefore preferred to justify the urgent need to develop

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[269] The utilitarian theory also refers it as promoting the public good. *See* Myers AA 'Protective Function Privilege: A Study of the Proposed Protective Function Privilege - Compelling Secret Service Testimony' *New York University School of Law Annual Survey of American Law* 43 (1999).

[270] *See* Brownsword R 'Happy Families, Consenting Couples and Children with Dignity: Sex Selection and Saviour Siblings' 17 4 *Child and Family Law Quarterly* 435 (2005).

[271] *See* Lloyd J 'Let there be Justice: A Thomistic Assessment of Utilitarian and Libertarianism' 8 *Texas Review of Law and Politics* 229 (2003). This journal also argue that the utilitarian view the individual as nothing more than a subservient part of the community.

[272] *See* Raymond L 'The Ethics of Compensation: Taking, Utility and Justice' 23 *Ecology Law Quarterly* 577 (1996).

[273] *Ibid.*

[274] *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 36.

[275] *See* Shariff MI 'The Development of Islamic Banking Law in Malaysia' 1 *Malayan Law Journal* 145 (1998).

Islamic banking law in Malaysia in accordance to policy.[276] To ensure the intended policy is followed in developing Islamic law, specific legislation, legislative guidance and legal mechanism are applied in civil courts on Islamic law matters.[277]

Malaysia is also keen to adopt the utilitarian approach to justify wider law reform. In the mid 1970s, Malaysia adopted the utilitarian theory to explain its reforms in marriage and divorce laws.[278] Based on the United Nations Convention on consent of marriage, minimum age and registration of marriage, the Law Reform (Marriage and Divorce) Act 1976 was enforced in Malaysia.[279] It was the opinion of the Royal Commissioner who was responsible for the law reform, that the legislation is necessary to affect the validity of marriage and must be enforced for the general good of Malaysians.[280] The law was enforced without taking into consideration the cultural and religious factors which have a major influence in marital matters.[281]

The introduction of a new legislation based on utilitarian thinking for economic development can only be successful if those advising or approving the law intend to implement regulatory measures to provide support to the legal structure.[282] New legislation related to biotechnology is necessary to enhance the technology in this area but needs to take into account what is 'morally good'.[283] The cultural and religious views

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[276] *Ibid.*

[277] *Ibid.*

[278] *See* Sidhu BS 'Married or Not Married – That is the Question' 3 *Malayan Law Journal* 129 (2002).

[279] *Ibid.*

[280] *Ibid.*

[281] *Ibid.*

[282] *See* Das R 'Legislating Biotechnology in Malaysia: Future Considerations for the Development of New Legislation' 4 *Malayan Law Journal* 130 (1999).

[283] *Ibid.*

play a large part in determining the perception of 'morally good' and require careful examination.[284]

There are also arguments that the implementation of a law based on the utilitarian approach may be more difficult.[285] Enforcement of laws depends on how the public perceive and implement it.[286] For example, on issues related to the preventive campaign on AIDS in Malaysia, cultural and religious sensitivities have hindered the effectiveness of the related law.[287]

In a country like Malaysia, the evolutionary process of legal development has to take into consideration the fact that it has been colonised. The creation of colonial empires led to a proliferation of western legal systems in Malaysia.[288] Most of Malaysian legislation derives from western laws. This process of legal borrowing from the western foreign sources continues in Malaysia.[289] Even though many adaptations were made in the process of enacting laws that were modelled after the western laws, formal legal systems in Malaysia today look familiar to lawyers trained in western law.[290] In fact, some cyberlaws, which were enacted for the purpose of ICT, are also based on western laws. The Digital Signature Act 1997 (DSA) is based on the Utah Digital Signature Act and the Computer Crimes Act 1997 (CCA) is based on the United Kingdom Computer

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[284] *Ibid.*

[285] *See* Vadaketh CG 'Aids and the Law: Does Protection Exist for the Aids Victims? A Malaysian Perspective' 3 *Malayan Law Journal* 113 (2000).

[286] *Ibid.*

[287] *Ibid.*

[288] . *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 36.

[289] *Ibid* 37.

[290] *Ibid* 38.

Misuse Act 1990.[291] The amendment made to the copyright law[292], which is part of the MSC's cyberlaws initiative, was also based on the English principles.[293]

Even though evolutionary processes do play a role in the legal development in Malaysia, the formulation of the PSA is based on the utilitarian theory. An efficient payment system is acknowledged as one of the key factor in ensuring financial stability, which is essential for economic growth.[294] The PSA is thus used as an instrument to promote economic development.[295]

The PSA is based on a model from the west. The PSA was based on the recommendation made by BIS on SIPS.[296] Its provisions are based on Canadian Payment Clearing and Settlement Act 1996 and the Australian Payment System (Regulations) Act 1998.[297] The decision to enact a new law on payment is based on the decision that legislation on payment and settlement is necessary for economic growth without taking into consideration other factors such as the evolutionary process of the payment systems in Malaysia.[298] Nevertheless, it would be important to study the evolution taking place in the payment and settlement systems, especially when the PSA intends to include a

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[291] *See* Annamalai N 'Cyber laws of Malaysia -The Multimedia Super Corridor' 12 *Journal of International Banking Law* 473 (1997).

[292] Copyright (Amendment) Act 1997.

[293] *See* Abdul Ghani Azmi IM 'Electronic Works and Copyright: The Demise of Public Interest' 1 *Malayan Law Journal* 101 (1998).

[294] *See* 'Payment Systems Act 2003' Industry Briefing (n 66) and 'The Payment Systems Act 2003' Press Release (n 144).

[295] In his introductory statement of the PSA, the Minister of Finance stated that the purpose of enacting a new legislation on payment and settlement is to ensure financial stability, which is crucial to enhance the economy of Malaysia. *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106).

[296] *See* 'Core Principles for Systemically Important Payment Systems' (n 75).

[297] *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106) and 'Payment Systems Act 2003' Industry Briefing (n 66).

[298] The PSA was formulated only after two years of research. *Sources* from Payment Systems and Legal Departments, BNM.

regulatory framework for new retail payment instrument such as electronic money. Understanding the evolutionary process of electronic money development would be crucial to ensure that the legal framework in place does not stifle innovation and enhancement of this product. [299]

The formulation of the PSA does not take into consideration the preference of the public in choosing the mode of payment.[300] However it is important to acknowledge the payment culture of the public especially as this affects their acceptance of new payment instruments such as electronic money. It would be crucial to grasp this before establishing a stringent and costly regulatory framework under the PSA.

The evolution of legal systems in Asia closely tracks the policy periods and the changes appear to have supported the prevailing economic strategies.[301] When the policy is to promote growth in certain sectors, such as high technology industries or financial services, the economy often enacted a law oriented towards intellectual property or banks and stock exchanges.[302]

Since the middle of 1980s to the 1990s, the government's strategy was to reduce state direct control and to make law more market-allocative.[303] This strategy still continues with the development of ICT through Malaysian Vision 2020 and MSC

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[299] Electronic money is fairly new to Malaysian. For example, the National Multipurpose Card or MyKad, which has the identity card application and includes electronic money, was only made compulsory nationwide in December 2005, even though it was introduced in 2001. *Available at* <http://www.jpn.gov.my/gmpc/GMPC.htm> last visited March 2006.

[300] The formulation of PSA does not involve any public consultation exercise. *Sources from* Payment Systems Department, BNM. *See* also section V of this Chapter.

[301] *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 64.

[302] *Ibid.* Also note that this argument relates to Malaysia. Various Acts have been put in place in line with the government's policy to enhance economic growth, which includes development of financial services. Before the formulation of the PSA, various laws were put in place for the development of financial industries. For example, the previous insurance legislation was revamped to formulate the Insurance Act 1996. The BAFIA, the Securities Industry Act 1983 and the Future Industry Act 1993 were also enacted.

[303] *Ibid.*

programs. However, as far as the enactment of the PSA is concerned, based on the justification that the legislation is necessary for financial stability, which would enhance economic growth, it gives direct power to BNM to regulate payment systems. This includes the power of BNM to identify what retail payment instruments should be in operation.[304] Thus, the argument that even if the government's policy is to deregulate but the processes has become discretionary[305] still applies to the PSA. The utilitarian approach taken in formulating the PSA is justified by the government's policy on ICT development. [306] The development of payment systems, which is part of ICT enhancement, is an evolving process. [307] In order to precisely capture the direction of the government on ICT development, which includes payment matters, the PSA has been enforced as a tool to enhance economic growth. The application of the evolutionary theory or to apply the payment culture of the public may involve time and create uncertainty. [308] The utilitarian approach, which uses the law not as a result of socio-economic development, but as a tool for government to initiate and shape the economy, may create certainty to the scope of payment regulatory framework.

In deciding whether to regulate or to leave the product to be freely developed by the market, one of the questions that can be asked is whether BNM with the existing

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[304] Besides electronic money, BNM also designate conventional retail payment products such as credit, debit and charge cards. Thus, all these instruments are subjected to the regulatory framework under the PSA. *See* PSA sections 23 to 29. *See* also Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 168); Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003 (n 173); and Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 171).

[305] Based on the study of the Malaysian's Policy Period from 1986 to 1995. *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 89.

[306] *See* Chapter 1 section V under B.

[307] *See* Chapter 2 section II under D.

[308] This is based on earlier argument in this section that the application of the evolutionary theory is where the law has to be developed over time and interacts with changes in the socio-economic. The application of cultural factors is where the law and legal evolution are part of the historical development of a country, where they are determined by various factors such as culture, geography, climate or religion.

expertise and resources is ready for such a responsibility. With the government's policy to develop ICT nationally, BNM is in a strong position to cooperate with that policy. This follows the procedural dimension of regulation. Nevertheless, the government itself has been encouraging the market for ICT to be developed by private initiatives, with the hope that market discipline would influence the way stakeholders act.[309]

C. Enforcement Issues under the PSA

The process of formulating a regulatory framework involves three stages, namely:-[310]

i. The enactment of enabling legislation;
ii. The creation of regulatory administrations and rules; and
iii. The bringing to bear of the rules on persons or institutions sought to be influenced or controlled.

The third stage, which is the enforcement stage, is of more importance than the formulation of the regulatory framework under stage one and two.[311] This is because astute enforcement can remedy design defects in regulatory mechanisms and ill-enforcement can undermine the most sophisticated designs of regulations.[312] The enforcer of the legislation should use their discretion in applying the provisions to the legislation and be selective in order to solve the practical problems. However, it should also be borne in mind when using discretion, that failure to identify and deal with the breaches of the rules and regulations may also reduce the legislation and regulatory framework that were set up to mere paper exercises.[313] The use of discretion has both advantages and

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[309] *See* 'Impact of E-Banking and E-Commerce On Central Banking Functions' (n 112).

[310] *See Understanding Regulation – Theory, Strategy, and Practice* (n 198) 96.

[311] *Ibid.*

[312] *Ibid.*

[313] *Ibid.*

disadvantages. As such, the procedural dimension of regulation comes with caution, as while discretion can be beneficial to remedy flaws, it can also be taken for granted by regulators.

Without doubt, omission of the application of the provisions provided by the PSA could be detrimental to the public using electronic money. On the other hand, the application of the wide powers under PSA[314] can also lead to other issues. For example, the PSA has extra-territorial jurisdiction in the sense that it allows BNM to conduct examinations of offices of the issuer outside Malaysia.[315] This power, if invoked, has strong implications to other jurisdictions.

It is unrealistic for a regulator to expect perfect compliance.[316] Enforcement costs tend to rise alongside increases in levels of compliance and there would be a point where the cost of further enforcement is not justified with the gain.[317] Enforcement resources are limited and as bringing the matter to prosecution[318] would involve huge expenses, then perhaps, it would be best for BNM to impose a fine for most offences committed under PSA.[319] This power is provided under PSA section 60(1): -

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[314] PSA allows BNM to regulate electronic money as a payment instrument by issuing it as DPI (PSA section 24 (1) and (2)) and also the payment systems for the electronic money scheme by issuing it as a DPS in the event that operator put a new and independent system in place for the scheme (PSA section 6 (1)).

[315] PSA section 34 and 35.

[316] *See Understanding Regulation – Theory, Strategy, and Practice* (n 198) 110.

[317] *Ibid. See also* Meyers S 'Application of *De Minimis*' in Whipple C (ed) *De Minimis Risk* (1987) 102 which states 'it frequently is relatively cheap to reduce risks from 0% to 99%, more expensive to go from 90% to 99% and more expensive to go from 99% to 99.9%'.

[318] It should be noted that upon conviction, the offender is liable to a heavy punishment as provided under PSA section 56. The offender can be made liable to a fine or imprisonment as set out in the PSA Schedule, Third and Fourth Column. Daily fine under the Schedule Fifth Column can also be imposed for every single day that the offence continues.

[319] PSA section 60(1).

The Governor may with the consent in writing of the Public Prosecutor, offer to compound any offence under any provision of this Act or under regulations made under this Act by making accepting from the person reasonably suspected of having committed the offence such amount not exceeding fifty per centum of the amount of maximum fine,[320] including the daily fine, if any, in the case of a continuing offence, to which that person would have been liable if he had been convicted of the offence, within such time as may be specified the offer.

By invoking the provisions above, BNM would not lose its power to prosecute in the event that the offer was not paid within the specified time, or such extended time granted by the Governor.[321] However, it should be noted that once BNM receives the amount fined, no prosecution can be instituted in respect of the offence against the person to whom the offer to compound was made.[322]

V Challenges in Implementing the PSA to Electronic Money

Malaysia acknowledges the need to develop ICT in order to compete in an environment of increasing globalisation and also the emergence of the knowledge-based economy.[323] Malaysia also regards ICT as important requirements for strong sustainable growth for the economy.[324] The Government of Malaysia has committed itself towards making some policy adjustment related to the liberalisation and promotion of a

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[320] The fine, including a daily fine is provided under the PSA Schedule, Third and Fifth Column.

[321] PSA section 60(2) states: -

> An offer under subsection (1) may be made at any time after the offence has been committed and where the amount specified in the offer is not paid within the time specified in the offer, or such extended time as the Governor may grant, prosecution for the offence may be instituted at any time after that against the person to whom the offer was made.

[322] PSA section 60(3) states: -

> Upon receipt of the amount under subsection (1), no prosecution shall be instituted in respect of the offence against the person to whom the offer to compound was made.

[323] *See* Mohamed M 'Mid-Term Review of The Eighth Malaysia Plan 2001-2005' October 2003 at 277.

[324] ICT has become the key driver for socio-economic development in recent years. ICT has proved to contribute positively to Malaysia's economic growth over the study period from 1975 to 2002. *See* Kupusamy M and Solucis SA 'Investment in Information and Communication Technologies and Its Payoff in Malaysia' Volume 4 Issue 2 *Perspective on Global Development and Technology* 147-167 (2005).

competitive environment for ICT growth.[325] The political direction on ICT has not changed with the appointment of the new Prime Minister in 2003.[326] It has been announced by the government that the MSC program will remain a priority, as ICT development is regarded as an important tool that can improve a country's competitive position in the global economy and support development objectives.[327]

The policy on ICT, which includes embarking on massive plans to overhaul the legal structure,[328] is also reflected through the formulation of the PSA. The main rationales of the PSA are to have a specific legislation on payment systems and to specify the roles and functions of BNM on payment issues.[329] The Act is also to provide the same regulatory standard to non-financial institutions providing payment services as the financial institutions. This is based on the recognition that in ICT environment, non-financial institutions are also providers of retail payment services.[330]

In developing the regulatory framework for payment systems in line with ICT, Malaysia is keen to ensure that the framework is in line with international standards.

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[325] A comprehensive and integrated ICT policy is required to accelerate the development of infrastructure, industries, capabilities and technologies towards meeting the objective of Malaysia becoming a knowledge-based society. *See* 'Mid-Term Review of The Eighth Malaysia Plan 2001-2005' (n 273) 298 - 301.
In assessing the issue on liberalisation and the policy environment of financial sub-sectors (banking and insurance), it indicates that there is the general move towards greater deregulation and privatisation. *See* Rajan RS and Sen R 'Liberalisation of International Trade in Financial Services in Southeast Asia: Indonesia, Malaysia, Philippines and Thailand' 4(5) *Journal of International Financial Markets* 170-180 (2002).

[326] *See* 'Emphasis on MSC, ICT will be Continued, says Abdullah' The New Straits Times 3 September 2003.

[327] *Ibid.*
One example that acknowledges ICT as a key tool is in developing the National Innovation System, which is a strategy to outline the role of science, engineering and technology in contributing towards continuous economic development of Malaysia. *See* 'ICT to Drive Innovation' New Straits Times 16 February 2004.

[328] *See* Luh LL and Lwin MO 'An Overview of E-Commerce Laws and Policies in South-East Asia' *International Company and Commercial Law Review* (1999) Spe 55-60.

[329] *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106); *Penyata Rasmi Parlimen Dewan Negara 2 Julai 2003 DN.2.7.2003* (Parliamentary Debates in Senate on 2 July 2003 DN.2.7.2003); and 'Payment Systems Act 2003' Industry Briefing (n 66).

[330] *Ibid.*

Thus, the primary objective of PSA[331] was to become consistent with the Core Principles for Systemically Important Payment Systems (SIPS) recommended by the CPSS.[332] BNM has taken the Core Principles as the main guidance in having a separate payment system legislation.[333]

PSA follows the SIPS Core Principles in that payment systems should have a well-rounded legal basis,[334] where clear rules and procedures are available for the participants[335] and clear procedures specifying the responsibilities of the system operator and participants of the payment systems must exist.[336] PSA assigns BNM to regulate on the operation and governance of payment systems to ensure that the system is reliable and efficient.[337]

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[331] *Ibid.*

[332] *Ibid.*
The formulation of PSA was based on BIS 'Core Principles and Central Bank Responsibilities: Public Policy Objective: Safety and Efficiency in Systemically Important Payment Systems'. The Core Principles are intended for use as universal guidelines to encourage the design and operation of safer and more efficient systemically important payment systems worldwide. It is also of relevance to emerging economies in order for these countries to improve systems or to build new ones. *Available at* 'Core Principles for Systemically Important Payment Systems' (n 75).

[333] *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106).

[334] Core Principle I states that the system should have a well founded legal basis under relevant jurisdictions. *Available at* 'Core Principles for Systemically Important Payment Systems' (n 75).

[335] *Ibid.* Core Principle II states that the system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.

[336] *Ibid.* Core Principle III states that the system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.

[337] *Ibid.* Core Principles VII to X state: -

VII. The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing;
VIII. The system should provide a means of making payments which is practical for its users and efficient for the economy;
IX. The system should have objective and publicly disclosed criteria for participation, which permit fair and open access;
X. The system's governance arrangements should be effective, accountable and transparent.

The PSA Part II and III include provisions in relation to these matters.

Based on SIPS recommendation that central bank should make clear its objectives on payment systems,[338] BNM has amended the CBA together with the enactment of PSA to specifically include the efficiency of payment systems as one of its objectives.[339]

The BNM's commitment under the Financial Sector Masterplan on payment systems is an additional rationale to have a separate legislation on payment systems.[340] The Masterplan recommends BNM adopt a flexible, proactive and effective regulatory framework for the oversight of payment system and to increase efficiency of the system.[341]

The process of formulating the PSA involved the consultation with NPAC.[342] The NPAC[343] consists of government authorities, other central banks, association of banks and also MEPS, a private company set up for developing MEPS Cash, but does not involve public consultation.[344] As efficiency of the payment system is a matter of public interest, BNM should consider public consultation in formulating the PSA. This is especially the case as BNM has the intention to regulate retail payment instruments such

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[338] *Ibid.* Paragraph A of the 'Responsibilities of the Central Bank in Applying the Core Principles' states: - The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.

[339] *See* section III under A, and the Central Bank (Amendment) Act 2003 section 3.

[340] *See* 'The Payment Systems Act 2003' Press Release (n 144) and 'Bank Negara Malaysia Annual Report 2003' (n 108) 173.

[341] *See* Recommendation 3.27 'Increase efficiency and competition in the payments system' in 'Financial Sector Masterplan' (n 63) 52.
Under the Financial Sector Masterplan, BNM outlines the medium and long-term strategies for the development of the financial sector. It consist of a total of 119 recommendations for the banking and insurance sectors, including Islamic banking and takaful (Islamic insurance). *See* 'Bank Negara Malaysia Annual Report 2001' (n 188) 128 - 130.

[342] *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106) and Parliamentary Debates in Senate on 2 July 2003 DN.2.7.2003 (n 279).

[343] *See* section III under C - 2.

[344] *Sources from* Payment Systems Department, BNM.

as electronic money under the PSA[345] that have a direct interest to the public.

In Malaysia, legislation has seldom involved public consultation. However, MECM invited public opinion for the Personal Data Protection Bill,[346] which proved to be successful. It has encouraged valuable analysis from academics on issues related to the Bill, especially on current developments.[347] It has also produced legal opinions from the Malaysian Bar Association, which provide comments and comparison of the Bill to relevant legislation in other countries.[348]

A. The Adequacy of BNM's Regulatory Power on Electronic Money

As examined in Chapter 1 section VI, East Asian countries have a tendency to prefer informal relationship-frameworks and *ad hoc* problem-solving to universal principles and public-decision making based on contractual and other legal frameworks.[349] This has had a strong impact on the regulatory structure of payment systems, especially electronic money in Malaysia.

BNM has been entrusted by the Government to be the lead agency in developing

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[345] PSA has issued Gazette Order to make electronic money and other retail payment instruments as DPI. *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 168).

[346] As of August 2005, this Bill is yet to be tabled in Parliament. *Available at* 'Personal Data Protection' <http://www.ktkm.gov.my/template01.asp> last visited August 2005.

[347] For example, comments were made on the issue of privacy in relation to its applications to electronic commerce and to what extent Malaysia should protect the public. *See* Azmi IM 'E-Commerce and Privacy Issues: An Analysis of the Personal Data Protection Bill' Presentation by a lecturer from International Islamic University Malaysia at the BILETA 17th Annual Conference at Free University in Amsterdam on 5 – 6 April 2002. *Available at* <http://www.bileta.ac.uk/DocumentLibrary> last visited July 2005.

[348] The Johore Bar Association made comparison of the Bill to the Australian Commonwealth Privacy Act 1988. *Available at* 'Legal Issues in B2C E-Commerce in Malaysia – Data Protection' <http://www.johorebar.org.my/content/view/170> last visited July 2005.

[349] *See* Kahler K 'Institution-building in the Pacific' in *Pacific Cooperation: Building Economic and Security Regimes in the Asia-Pacific Region* (n 220) 18.

electronic money under the MSC project,[350] as an integral part of ICT development. The government's policy under the MSC project is to support the leaders of the private sector to develop ICT without unnecessary intervention by regulators.[351] The government under its MSC project does not place any restriction on any particular industry to issue or develop electronic money schemes.[352] This policy is consistent with the PSA, which does not limit the issuer of electronic money to financial institutions.[353]

There are however, strict penalties for offences committed under the PSA which could discourage industries from issuing and developing electronic money. Under the legislation, the offender could be liable to a fine between MYR 1 to 5 million and/or could face imprisonment of between one to five years.[354] BNM also has the power to issue sanction of up to 50% of the maximum fine, including a daily fine, if any, in the case of continuing offences.[355] Administrative penalties may also be imposed in the event that there is a delay in complying with guidelines or circulars issued by BNM.[356] Payment systems with written notifications may still be subjected to on-site examination.[357] As at end of 2004, BNM has conducted on-site examination of two payment systems operators since the enforcement of PSA.[358]

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[350] *See* Chapter 1 section V under B - 2.

[351] *See* Chapter 1 section V under B.

[352] *See Concept Request for Proposal – Multipurpose Card Flagship Application* (n 9).

[353] Part of the formulation of PSA is to ensure that there is a comprehensive law to regulate non-financial institutions in the payment services industry. *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106); Parliamentary Debates in Senate on 2 July 2003 DN.2.7.2003 (n 279); and 'Payment Systems Act 2003' Industry Briefing (n 66).

[354] *See* the PSA section 56 (1) and the Schedule. Also note that the Schedule under the Fifth Column imposes a daily fine for continuing offences between MYR 1000 and MYR 5000.

[355] PSA section 60 (1).

[356] PSA section 61 (1).

[357] Even though PSA section 5(2) states that a written notification is not an approval or endorsement required from BNM.

[358] *See* 'Bank Negara Malaysia Annual Report 2004' (n 176) 221.

This leads to the question of whether BNM's regulatory framework for electronic money is consistent with the government's policy on ICT. Even if, in principle, there were no direct intervention from BNM to restrict any party from issuing electronic money, by having a strict requirement, it is likely to curtail entry to the market.[359]

There is tension between the government policy of maintaining the primacy of private sector development of electronic money and BNM's relatively comprehensive regulatory framework for electronic money. While the importance of using greater market discipline for financial regulation is true, the relative immaturity and lack of depth in financial markets[360] in Malaysia make it difficult to rigorously pursue market discipline.

On the other hand, the role that the government has given to BNM, namely development of electronic money in tandem with ICT, points to the need of BNM to take into account the overall agenda of 'development' rather than its primary function as regulator. This is in line with the allocative dimension of Asian legal systems in development, whereas the state is considered better equipped to allocate economic resources.[361] It also bestows upon BNM the 'procedural dimension'[362] with discretionary power for legal and administrative matters.

The strong power of BNM in relation to payment systems has the possibility of stifling innovation. It is important that progress in the legal and regulatory framework on

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[359] BNM's power provides that the potential issuer of electronic money must pay the fees and submit documents upon seeking approval to issue electronic money. *See*: -

i. Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003 (n 173); and
ii. Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 171).

[360] *See* The Balance of Market Discipline in Bank Regulation' in *International Seminar - The Breakdown of Public & Private Law Dichotomy in Commercial and Financial Law* (n 208) 81, 103 - 104.

[361] This is the 'allocative dimension'. *See* also *The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 5.

[362] *Ibid* 6.

ICT be driven by market needs and national priorities rather than by technology alone. There is a need to seek active participation by different user groups to incorporate their specific requirements and circumstances in the national information network. Thus, public consultation should become a norm and not an exception for all legal and regulatory changes, especially for those that directly affect the consumer.

Some of the initiatives taken to develop the regulatory framework through cyberlaws have been carried out in a piecemeal fashion. Various issues related to the implementation of cyberlaws remain unresolved, which may hamper the development of ICT. While the enactment of PSA does not necessarily indicate such deficiencies currently, without better public consultation and liberal framework of electronic money, the regulatory framework may become haphazard.

There is also an overlap of functions between BNM and MECM in regulating electronic money schemes. MECM has the power under CMA to investigate activities of the licensee.[363] Similarly, BNM also has the power to inspect premises, equipment, machineries and documents of a person when considering whether to prohibit that person from issuing or using any payment instrument.[364] Both legislation give general powers to enter and investigate a suspected offence.[365] Contravention in either or both legislation would lead to two different sanctions under CMA[366] and PSA.[367]

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[363] CMA section 246 (1) provides: -

> The Commission may investigate the activities of a licensee or other person material to his compliance with this Act or its subsidiary legislation.

[364] PSA section 23(2).

[365] CMA Part X under Chapter 3, and PSA Part V provides for these powers.

[366] CMA section 126(2). Contravention leads to maximum MYR 500,000 fine or maximum five years imprisonment or both. There is also a MYR 1000 fine for every day or part of the day during which the offence is continued after conviction.

[367] Schedule to the PSA under Serial No. 13 provides that contravention to section 23(1), *i.e.* a person issuing a payment instrument which is prohibited by BNM will lead to a fine of MYR 5 million or 5 years imprisonment or both. There is also a daily fine not exceeding MYR 5000 for every day which the offence is committed.

It is inevitable and imperative that in the ICT environment regulators begin to rely on the market for self-discipline to a certain extent. The correction of information asymmetry is a central role of regulators in respect of letting the markets manage their risks.[368] Ensuring better information disclosure will be a first step.

Another challenge for many emerging economies is to have a regulatory framework that promotes competition. The quality of retail payment services does not rely merely on the level of technology or speed of payment method but more on the reliability.[369] Also, the ability to pay through the same retail payment instrument by a number of different service providers is essential.[370] The development of ICT brings about rapidly progressing technology and regulating such a market is synonymous to monitoring a moving target.[371] Competition with better information disclosure would ensure that providers of better goods and services are kept in business while those with inferior goods and services will become obsolete.

It is questionable whether regulators in emerging economies are prepared to let market discipline monitor financial regulation. In an ICT environment, the approach taken by regulators has to be different from previous methods. The approach has to be based on a supervisory model that is flexible, transparent, stable and promotes competition, as the providers of retail payment systems are no longer limited to financial institutions.[372]

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[368] *See* The Balance of Market Discipline in Bank Regulation' in *International Seminar - The Breakdown of Public & Private Law Dichotomy in Commercial and Financial Law* (n 208) 81, 103 - 105.

[369] *See* Chapter 2 section II under D.

[370] *See* Chapter 2 section IV under C.

[371] *See* Chapter 2 section IV under B.

[372] It has been argued that before the development of ICT, the regulators' functions were only to regulate financial institutions. However, since the development of technology, it allows the separation of payment services and credit services, which reduce the role of the financial institutions on payment systems. *See* Nieto MJ 'Reflections on the Regulatory Approach to E-Finance' BIS paper No. 7 (Part 10) November 2001. Based on presentation for the Bank for International Settlements Workshop on 'E-Finance' in Basel Switzerland on 2 – 3 July 2001.

The Financial Sector Masterplan[373] issued by BNM states that it will provide the regulatory framework on payment systems area, which includes regulatory policies for both conventional and new electronic retail payment systems and the instruments. Malaysia may be heading for a rigid regulatory framework for payment systems. The Masterplan issued includes wide policy objectives, regulatory oversight by BNM, minimum criteria and standards for service providers such as security, transparency of fees and charges, privacy and consumer education and awareness programs.[374]

For the regulation of new electronic retail payment systems to be effective while ensuring the safety of new instruments, regulators need to balance the interest of all parties involved. This would involve a regulatory system that is open to external comments and responsive to technological advances. For countries such as Malaysia, whose government is advocating ICT development and consequent regulation, regulation should be open to comments from all stakeholders.

Since the enforcement of the PSA, BNM has been quick to designate retail payment instruments, including electronic money.[375] However, as of this date, no regulation[376] has been issued on electronic money under PSA. No guidelines and

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[373] *See* 'Financial Sector Masterplan' (n 63) 52.

[374] *Ibid.*

[375] *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 168).

[376] With the approval from the Minister, BNM has the power to make regulations under the PSA. The PSA section 69 (1) states: -

> The Bank may, with the approval of the Minister, make such regulations as may be –
> (a) required or permitted by this Act to be prescribed by regulations;
> (b) necessary or expedient for -
> (i) giving full effect to the provisions of this Act;
> (ii) carrying out or achieving the objects and purposes of this Act; or
> (iii) the further, better or more convenient implementation of the provisions of this Act.

circulars[377] on electronic money have been issued either. BNM has only reported that they are in the midst of formulating regulations on stored-value card.[378]

A regulation on electronic money is important in order to provide the detail regulatory framework for the product. It is to ensure that the issuers of electronic money who have to seek approval from BNM prior to issuing the product are clear on the requirements expected by BNM.

Due to the delay in formulating a regulation on electronic money, the application of the Gazette Order on the submission of documents[379] is unclear. Even though the Order specifies issues to be covered in submitting the information and documents, BNM did not provide any guidance as to the exact requirements in giving its approval.

On stored-value cards, BNM has to publish its policy on who can issue multipurpose stored value cards. It has been announced that only financial institutions are allowed to issue multipurpose cards whereas non-financial institutions can only issue limited purpose stored-value cards.[380] Since no regulation has been made defining a limited purpose card, issuers do not have any guidance as to the acceptable scope of users and location.

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[377] BNM has the power to issue guidelines and circulars under the PSA. The PSA section 70 states: -

> The Bank may, generally in respect of this Act, or in respect of any particular provision of this Act, or generally in respect of the conduct of all or any of the operators of payment systems or issuers of payment instruments, issue such guidelines, circulars, standards or notices as the Bank may consider desirable.

[378] *See* Committee on Payment and Settlement Systems 'Survey of Developments in Electronic Money and Internet and Mobile Payments' Bank for International Settlements 2004.

[379] *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 171).

[380] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 328).

The approach taken by Hong Kong is different from Malaysia. The HKMA Guide [381] on multipurpose stored-value cards was issued concurrently with the amendment to the Hong Kong Banking Ordinance on the same matter. Chapter 10 of this Guide describes the legal framework, principles and criteria, which HKMA will adopt in authorising or exempting the issues of or facilitating of the issues of multipurpose stored-value card.[382] For example, the Guide specifies in detail what kind of stored-value card is allowed to be issued by non-banks, including the scope of the core use, ancillary or incidental usages that are permitted.[383]

The Gazette Order on submission of documents also includes that the issuer of DPI should specify how the funds collected from the users will be managed, including its repayment. [384] BNM has to specify the requirements by the issuer as the current provisions, requesting that the measures on management of funds must be submitted, creates ambiguity as to what would be the acceptable measures.

The HKMA Guide on multipurpose stored-value card provides for the arrangement of floats.[385] Potential non-bank issuers have to make available the risk management policies and procedures adopted,[386] including describing how the liquidity

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[381] *See* Hong Kong Monetary Authority 'Guide to Authorization Under the Banking Ordinance' under Chapter 10 on 'Authorization of the Issue of Multi-Purpose Stored Value Cards'. *Available at* <http://www.info.gov.hk/hkma/eng/public/gta2002/index.htm> last visited February 2003

[382] *See* Chapter 1 on 'Introduction' under paragraph 1.5 (i) in 'Guide to Authorization Under the Banking Ordinance' (n 331).

[383] *See* Chapter 10 on 'Authorization of the Issue of Multi-Purpose Stored Value Cards' under paragraph 10.13 (a) to (d) in 'Guide to Authorization Under the Banking Ordinance' (n 331).

[384] *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 168) under paragraph 2 (1)(g)(iv).

[385] *See* Chapter 10 'Authorization of the Issue of Multi-Purpose Stored Value Cards' under paragraph 10.19 and 10.20 in 'Guide to Authorization Under the Banking Ordinance' (n 331).

[386] *Ibid* under paragraph 10.19.

requirements will be managed.[387] These details provide a guide to the issuer in submitting their documents on management of funds.

Article 4 of the European and Council Directive 2000/46/EC on the taking up, pursuit and prudential supervision of the business of electronic money institutions where the initial capital and ongoing own funds requirements that must be complied by electronic money institutions are specifically provided.[388]

In accordance with SIPS, BNM has to issue regulations related to the management of credit and liquidity risks by issuers of electronic money. The failure of BNM to issue regulations and to identify certain policies pertaining to various matters on electronic money in conjunction with the enforcement of PSA poses the question whether BNM is ready to formulate a comprehensive regulatory framework for the product. The present situation has not been much improved since the enactment of PSA, which removes the ambiguity of applying BAFIA repealed section 119(1).[389]

With the formulation of PSA, policies on network-based electronic money schemes must be decided by BNM. Even if there is no reported success in this product in Malaysia,[390] BNM has to ensure that the policies related to this matter are available. This should be the case if BNM's intention is to have a complete regulatory framework for electronic money. By taking a 'piecemeal' approach,[391] BNM may find gaps and inconsistencies in handling the issues related to the regulatory framework on electronic money.

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[387] *Ibid* under paragraph 10.20.

[388] *See* Chapter 3 section IV under B on Directive 2000/46/EC.

[389] BNM included person operating electronic money scheme as person operating electronic fund transfers system, thus subjected to the BAFIA repealed section 119. *See* section III under B - 1.

[390] *See* 'Bank Negara Malaysia Annual Report 2004' (n 176) 223.

[391] BNM already announced that it is in the midst of formulating regulations on stored-value card, but no attempt has been made known to deal with issues on network-based electronic money. *Sources from* Legal Department, BNM. *See* also 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 328).

For example, BNM has to decide the approach to network-based electronic money schemes provided by persons outside Malaysia, but which allows Malaysians to participate. One instance is products such as PayPal in which an Internet payment provider operating outside Malaysia handles transactions. It allows its members to credit funds into their PayPal accounts and to send and receive payment online.[392] For customers with PayPal accounts, the system may debit and credit it participants' accounts in real time.[393] PSA applies to person operating a payment system outside Malaysia but receiving payment or settlement instructions from participants in Malaysia.[394] The decision to apply the PSA to such a person is within the discretion of BNM.[395] Policy from BNM on whether to impose the PSA to the person operating a payment system outside Malaysia or to prescribe such a scheme to be excluded from PSA is crucial to avoid gaps and inconsistencies in developing a regulatory framework for electronic money under PSA.

B. Challenges of Coordinating the Functions of Relevant Authorities under the PSA

As payment system legislation develops, the coordination among relevant authorities, which have purviews on payment issues, should continue to be examined to ensure clarity and consistency in applying the laws in question. This becomes more important as technology advances and functions included in payment system instruments evolve, requiring input from a greater number of stakeholders than traditional large value electronic fund transfer systems. Transparency and clarity of the authorities' functions are important, not only for payment system operators and issuers of payment instruments, but also to the relevant regulatory authorities.

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[392] Funds may be added to a PayPal account by credit card or cheques. *See* 'PayPal' <http://www.paypal.com> last visited July 2005.

[393] *Ibid.*

[394] PSA section 3(3).

[395] PSA section 3(3) further provides that the Act shall apply to a person outside Malaysia who is an operator of a payment system unless otherwise prescribed by the Bank.

Chapter 1 of this thesis discussed the challenges faced by relevant regulating authorities in implementing legislation on issues related to ICT. Issues specifically related to the operation of stored-value card in relation to its application to the previous provisions under BAFIA, and the Communications and Multimedia Act 1998 (CMA) were analysed.[396]

Under the present regulatory framework in Malaysia, electronic money schemes would be cross-regulated by two separate authorities under the PSA and CMA. The payment system that accommodates the electronic money schemes has to receive either written notification[397] or to be designated under the PSA by BNM. PSA under section 6 (1) allows BNM the discretion to designate a payment system if the system poses systemic risk or it is necessary to protect the interest of the public.

At the same time, the said payment system may also fall within the purview of the CMA section 126 (1)(c)[398] if providing 'applications services' and thus regulated by MECM. The CMA section 6 provides vague and wide definitions for 'applications services' and 'application service providers'. 'Application services' is defined as 'a service provided by means of, but not solely by means of, one or more network services' and 'applications service providers' is defined as 'a person who provides an applications service'. If one were to look beyond the wording of the legislation and to seek the intention of the drafters, the Explanatory Statement under paragraph 7 of the CMA provides: -

> The key participants in the industry who are regulated under the Act include the following:

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[396] *See* Chapter 1 section VI under B on issues related to BAFIA and CMA, which cause overlapping of regulatory powers between BNM and MECM.

[397] PSA section 5(1).

[398] *See* Chapter 1 section VI under B for the provisions provided under the CMA section 126 (1)(c).

- applications service providers, who provide particular functions such as voice services, data services, content based services, electronic commerce and other transmission services.

Based on the wide powers of BNM under PSA, and MECM under CMA, overlapping of regulatory powers exist between these authorities. It must be ensured that the regulatory functions of both BNM and MECM are enforceable and well coordinated.

In the process of formulating the PSA, MECM was involved. This Ministry, as a member of NPAC, was asked to participate and give comments on the formulation of PSA.[399] Also, as stated in the Gazette Order issued by BNM,[400] it acknowledges approval or licence issued by other regulatory authorities on the payment system. The operator of the system is required to submit to BNM 'any approval, authorisation, licence or permit' from other regulatory authorities prior to the issuance of a written notification by BNM. [401] By having this requirement, limited harmonisations among regulatory authorities take place.

The conflict of roles would be greater in the event that the payment system is designated as a DPS by BNM. In addition to the CMA's licensing requirements issued by MECM,[402] under the PSA, BNM needs to approve a DPS prior to the operation of the

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[399] *See* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 106) and 'Payment Systems Act 2003' Industry Briefing (n 66).

[400] *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 171) under Paragraph 2(1)(e).

[401] *Ibid* paragraph 2(1)(e).

[402] Provided that MECM decides to invoke its power to license the operator of payment system. The CMA section 126(1)(c) under (aa) and (bb) provide: -

> Subject to such exemptions as may be determined by the Minister by order published in the Gazette, no person shall –
> (c) provide any applications services,
> except under and in accordance with the terms and conditions of –
> (aa) a valid individual licence granted under this Act; or
> (bb) a class licence granted under this Act,
> expressly authorising the ownership or provision of the facilities or services.

system.[403] As a DPS, the operator of the system will be subject to greater requirements,[404] such as disqualifications of a director,[405] appointment of a chief executive officer,[406] governance[407] and operational arrangement,[408] and changes made to the DPS.[409]

Coordination between BNM and the Multimedia Development Corporation (MDC) must also be established in relation to the development of electronic money. MDC is not a regulatory authority that has direct implications on the payment system operator, but is a corporation established by the government to oversee the overall development of ICT.[410] As electronic money is recognised as important for the development of ICT in Malaysia,[411] the MDC's involvement and input will be important in formulating further new policies on electronic money.

The coordination between MDC and other members of the implementation agencies on the National Multipurpose Card is important, as BNM is the chairman of the steering committee.[412] With the enactment of PSA, which does not have any restriction on who should issue electronic money or who should operate a new payment system of electronic money, MEPS Cash[413] would be subjected to competition from other players.

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[403] PSA section 6 (1) (a) and (b).

[404] PSA section 7 (1) states that when a payment system is a DPS, the operator must be subjected to all the provisions under PSA Chapter 2, *i.e.* sections 9 to 15.

[405] PSA section 9.

[406] PSA section 10.

[407] PSA section 13.

[408] PSA section 14.

[409] PSA section 15.

[410] *See* Chapter 1 section V under B - 3.

[411] *See* Chapter 1 section V under B - 2.

[412] *See* section III under C - 1.

[413] Which is the electronic money application in the National Multipurpose Card.

As BNM is directly involved with the success of MEPS Cash, close coordination and participation between MDC and the implementation committee on the National Multipurpose Card has to be established. This is to ensure the success and acceptance of MEPS Cash by the public and at the same time, to ensure other electronic money schemes are also developed in Malaysia.

VI Concluding Remarks

BNM will face continuing challenges, not only in developing the regulatory framework for electronic retail payment instruments like electronic money, but also in enforcing and implementing the provisions provided under PSA. With the absence of specific regulations on electronic money products, the potential issuer of electronic money may face problem in identifying and providing the right information to BNM prior to gaining the approval from BNM. Without specific guidance from BNM, it may also curb innovation by industries to further develop electronic money in Malaysia.

At the same time, the law must evolve with new electronic payment instruments. The law has to be flexible and ready for further amendments to accommodate future development and new policies. An effective regulatory regime for electronic money can only be assured if the main regulatory authority like BNM continually monitors the development of electronic money schemes, both new and existing.

BNM in its effort to develop the regulatory framework for electronic money and coordinating with other authorities that have interest in electronic money has to ensure that the policies on electronic money are consistent.[414] The need for a regulatory framework for electronic money has raised numerous discussions. Different countries

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[414] This is despite the possibility of cross-regulatory functions by two separate authorities, under two different laws.

have taken different approaches.[415] The regulatory principles that are not exclusively related to electronic money have been argued to comprise four components: -[416]

i. Regulatory objectives, *i.e.*, the reasons why institutions require regulations and what the community expects regulations to achieve;
ii. Regulatory structure, *i.e.*, the structure of agencies that carry the delegated regulatory responsibilities of the community;
iii. Regulatory backing, *i.e.*, the political, legal and financial backing to enable regulators to carry out the duties effectively; and
iv. Regulatory implementations, *i.e.*, the instruments, tools and techniques that regulatory agencies use to achieve their objectives.

BNM has undertaken a huge responsibility to ensure success in regulating electronic money schemes in Malaysia. The four main components enumerated above are mainly the responsibility of BNM to ensure that the regulatory procedures have taken place and been applied effectively. Based on the amendments to the CBA[417] and also with the enactment of PSA,[418] BNM has wide powers to regulate payment system, including retail in nature. As there are other regulatory authorities that may also have interest in regulating electronic money, the main objective of each party has to be established. Coordination of regulatory functions among the authorities will not be successful if the policies for establishing the regulatory framework are not clear.

Malaysia is still in the process of developing electronic money. As the market is still immature, there may be restraints upon the ability to use market discipline. Market

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[415] *See* Chapter 3 section IV.

[416] *See* Carmichael J and Pomerleano M 'The Development and Regulation of Non-Bank Financial Institutions' The World Bank 2002.

[417] *See* section III under A.

[418] *See* section III under B - 2.

discipline implies great possibility for mature and liberal market.[419] This is because developed markets would have the depth to react to information promptly and the capacity to accept the move of market participants.[420] For a less mature market, the information asymmetry is greater which may be an obstacle to market discipline.[421] However, in providing a supervisory model for electronic money, BNM cannot rely on the existing method. BNM has to ensure that the regulatory framework for electronic money is flexible, transparent, stable and promotes competition.[422]

BNM faces the challenge of establishing its roles as the main regulatory authority and being involved with the development of electronic money. However, as a central bank in a developing country, it often needs to fulfil developmental tasks and are frequently the best, and at times the only, research department to capable of these responsibilities.[423] Further, central banks in transitional economies are often expected to fulfil certain objectives including the development of an efficient payment system.[424] Even though there are limitations on the part of BNM, especially in new area of retail payment instruments, BNM may be the best authority to pursue the regulatory framework and development of electronic money.

The PSA may be considered as the first step taken by BNM in its effort to develop a regulatory framework for electronic money. As the power in the Act is wide, BNM has to ensure that it will not be over-regulating electronic money issues. Various issues have to be considered even before the regulatory process is taken place such as whether to

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[419] *See* 'The Balance of Market Discipline in Bank Regulation' in *International Seminar - The Breakdown of Public & Private Law Dichotomy in Commercial and Financial Law* (n 208) 81, 103-104.

[420] *Ibid.*

[421] *Ibid.*

[422] It is acknowledged that as the Asian market develops, it also creates the need for new forms of State intervention in the form of regulatory oversight of the market. *See The Role of Law and Legal Institutions in Asian Economic Development 1960-1995* (n 221) 12.

[423] *See Central Banking and Banking Regulation* (n 111) 283.

[424] *Ibid.* Other objectives to be fulfilled are inflation control and maintenance of a sound and competitive banking system.

invoke the PSA to persons outside Malaysia providing payment system facilities to participants in Malaysia.[425] Policy decision on matters related to network money is also equally important. If certain issues are overlooked, it may create gaps and inconsistencies in applying the PSA.

It is also important that other resources from other relevant authorities participate and provide input, both in formulating strategies for the betterment of any regulatory strategy and also in development and research work. This is due to the fact that as it stands, the legislation in Malaysia provides the possibility of a joint regulatory function between two separate authorities. Inputs by non-regulatory authority with interest on electronic money are also important to enhance the development of electronic money.

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[425] *See* section V under A.

CHAPTER 5

CONCLUSION: PROPOSAL ON COORDINATION OF FUNCTIONS AMONG AUTHORITIES IN IMPLEMENTING THE REGULATORY FRAMEWORK FOR ELECTRONIC MONEY IN MALAYSIA

I Introduction

The development of Information and Communications Technology (ICT) and the Internet, and its rapid acceptance has led to the creation of many products, which employ the Internet as a means to reach potential consumers.[1] New retail payment instruments such as electronic money have been developed[2] in the hope that they will take advantage of the Internet.[3] However, the success of electronic money has been limited and it has been used either in a close community or only for certain sectors.[4] Consumers still prefer to use conventional methods of payment such as credit cards to stored-value card electronic money schemes.[5]

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[1] Developed countries as well as emerging economies have recognised the potential of ICT. Several initiatives have been taken by the emerging economies to enhance ICT. *See* Chapter 1 section IV and V for the initiatives taken by Malaysia, Singapore and Hong Kong.

[2] *See* Chapter 3 section II under D - 4 and 5 for Hong Kong and Singapore and Chapter 4 section II for Malaysia.

[3] Technically, it is possible for electronic money scheme such as stored-value card, to accommodate payment via the Internet. *See* Chapter 3 under IV.

[4] For example, the usage of electronic money schemes in the United States, the United Kingdom and Australia are limited and mostly used in the transportation sector. *See* Chapter 3 section II under D - 1, 2 and 3.

[5] *See* Chapter 2 section II under C on the preference to use credit cards in making payment transactions over the Internet. Initiatives have also been taken to enhance the features of credit cards in order to accommodate payments via the Internet.
Malaysian consumers also prefer to use credit cards to make payment compared to electronic money. *See* Table 4.35 on Non-Cash Payment in Malaysia, in Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2003' at 175; and Table 10.2 on Non-Cash Payments in Malaysia, in Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2004' at 223.

Nevertheless, emerging economies like Hong Kong have shown that electronic money can be a success on a wider scale.[6] Products like the Octopus card have been accepted by the general public in Hong Kong and have been used not only for road toll charges, but also for retail payments.[7] Electronic money is also successful in Singapore[8] although this is subject to debate, as the public do not have any alternative payment method for certain transactions.[9] Despite the slow acceptance of electronic money in Malaysia, as compared to Hong Kong and Singapore, Malaysia has taken initiatives to continually develop electronic money and its regulatory framework.[10] The Government of Malaysia has identified electronic money as one of the applications to be developed for ICT enhancement.[11]

The development of ICT in Malaysia prompted various cyberlaws[12] providing its legal foundation. One of the cyberlaws, the Communications and Multimedia Act 1998 (CMA), may affect the future regulatory framework for electronic money.[13] Currently, the Bank Negara Malaysia (BNM), under the Payment Systems Act 2003 (PSA), and the Ministry of Energy, Communications and Multimedia (MECM), as the implementer of the CMA, have regulatory power over electronic money.

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[6] *See* Chapter 3 section II under D - 4 and 5 for Hong Kong and Singapore; and Committee on Payment and Settlement Systems 'Survey of Developments in Electronic Money and Internet and Mobile Payments' Bank for International Settlements 2004.

[7] *See* Chapter 3 section II under D - 4.

[8] *See* Chapter 3 section II under D - 5

[9] For example, only one particular electronic money scheme is allowed to make payment for the congestion charges and road tolls for crossing the border to Malaysia. *See* Chapter 3 section II under D - 5.

[10] Before the formulation of the PSA, electronic money schemes were within the purview of the repealed provisions of the Banking and Financial Institutions Act 1989 (BAFIA). *See* Chapter 4 section III under B - 2 on PSA and Chapter 4 under B - 1 on repealed provisions of BAFIA.

[11] *See* Chapter 1 section V under B - 2.

[12] *See* Chapter 1 section V under B - 6.

[13] *See* Chapter 4 section V under B.

In addition, as part of ICT enhancement, the development of electronic money is of strong interest to non-regulatory bodies, such as the Multimedia Development Corporation (MDC).[14]

This chapter will propose a coordination mechanism among BNM, as the main regulatory authority, and other authorities, such as MECM and MDC. The proposal will lay out the functions that BNM will play as the lead regulatory authority. This will include the areas and issues to be considered when building cooperation among authorities involved. This chapter will also propose a dispute settlement system for unresolved regulatory disputes between regulatory authorities. Finally, the appropriate shape of the regulatory structure for electronic money in Malaysia will be envisaged.

As the previous chapters examined, the regulatory framework for electronic money in Malaysia is set to become a relatively comprehensive structure based on the notion of state-led economic development.[15] While the application of greater market discipline in financial regulation in the future is highly likely,[16] the policy of government-led ICT development indicates that the regulatory authorities will take an active role in both the promotion and regulation of electronic money for the time being. To ensure the legitimacy of such broad regulation, it is essential that the functions and objectives of each regulatory authority involved is clarified and agreed among interested parties.

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[14] MDC was established by the Government of Malaysia to spearhead the development and implementation of the Multimedia Super Corridor (MSC) for the purpose of ICT enhancement. *See* Chapter 1 section V under B - 3.

[15] *See* Chapter 4 section III under B - 2, Chapter 4 section IV under B and Chapter 4 se0ction V under A.

[16] *See* Aziz ZA 'Impact of E-Banking and E-Commerce On Central Banking Functions' Governor of Central Bank of Malaysia Opening Remarks at the SEACEN Seminar in Kuala Lumpur Malaysia on 9 January 2001. *Available at* <http://www.bnm.gov.my> last visited February 2002.

II BNM as the Main Regulatory Authority for Electronic Money Scheme

The involvement of central banks with retail payments can be categorised into three functions: -[17]

i. Operational capacity;
ii. Overseer; and
iii. Catalyst or facilitator of market and regulatory evolution.

The operational role that a central bank plays in retail payments is to provide clearing and settlement services.[18] Some central banks also provide other retail services for their countries.[19] The oversight function of a central bank varies from one country to another. Not all central banks will have oversight over retail payments.[20] For the central banks that do have oversight of retail payments, the coverage does not always extend to all systems.[21] Central banks may also be involved as catalysts or facilitators of retail transactions. In cooperation with the private sector, central banks may use their influence in the financial system to support or speed up market change such as through publishing information and providing analyses.[22] The involvement of central banks in retail

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[17] *See* Committee on Payment and Settlement Systems 'Policy Issues for Central Banks in Retail Payments' Bank for International Settlements 2003 at 1.

[18] *Ibid.*

[19] *Ibid* 11. For example, in France and Italy, the central banks provide retail payment services to enhance the security of certain payment instrument such as cheques.

[20] *Ibid.*

[21] *Ibid.* For example, In Switzerland, the Swiss National Bank's coverage extends only to systemically important payment systems. In Canada, the function is shared between the Bank of Canada and the Department of Finance under a cooperative regime. In the United Kingdom, the focus and intensity of oversight depends on the Bank of England's (BOE) judgement of the nature of the risk associated with each system.

[22] *Ibid.*

payments differs in nature and intensity,[23] depending on the institutional structure and tradition of each country.[24]

The application of new technology or business strategies in these markets are of interest to central banks in light of their implications to the efficiency and safety of retail payments.[25] Four areas are of interest to central banks: -[26]

i. Innovations resulting from advances in Information Technology (IT), introduced by providers of retail payment services at all market levels;
ii. Developments in the market for retail payment services across national boundaries;
iii. Changes in the structure of retail payment markets, in particular market integration and consolidation; and
iv. New participants in retail payment markets, in particular non-traditional providers.

With its expertise and experience in payment systems in general, and its primary objective being oversight of the payment system, BNM is the most suitable authority to act as the main regulatory body for electronic money.[27] Further, the significance that retail payment systems have on the stability of the financial system coincides with the interest of the central bank.[28]

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[23] *Ibid* 11 - 13.

[24] *Ibid.*

[25] *Ibid* 1.

[26] *Ibid.*

[27] *See* also Chapter 4 section III under A and B - 2.

[28] *See* Committee on Payment and Settlement Systems 'Policy Issues for Central Banks in Retail Payments' 2003 (n 17) 11. BNM has also amended its Central Bank of Malaysia Act 1958 (CBA) to include promoting the efficiency of payment and settlement systems as one of its principle objectives. *See* Central Bank of Malaysia (Amendment) Act 2003 section 3.

BNM is already involved in the development of other retail payment instruments even before the enactment of the PSA. For example, BNM has been involved in updating the image-based cheque clearing system (SPICK), which introduced new day-hold periods for clearing of outstation cheques deposited at and drawn on the respective SPICK and non-SPICK areas.[29] BNM was also involved with the integration of the three Automated Teller Machine (ATM) networks in 1996, whereby domestic banks now have a fully integrated ATM network.[30] BNM is also involved with the formulation of the Malaysian Electronic Payment System Sdn Bhd (MEPS), a company[31] that provides ATM switching[32] and an electronic money scheme under the MSC project.[33]

The formulation of PSA further established BNM's regulatory function on retail payments. Besides electronic money,[34] BNM has provided the regulatory framework for other retail payment instruments. Retail payment products such as credit, debit and charge cards are all within the purview of the Act and have been designated as designated payment instruments (DPI).[35] The issuers of these products are subjected to submission

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[29] *See* Bank Negara Malaysia 'Bank Negara Malaysia Annual Report 2001'at 178 – 179.

[30] BNM has been involved with the migration program of the ATM cards from magnetic strip to chip-based cards. As at end of 2004, 11.7 million chip-based ATM cards have been issued while 4,966 ATMs have been upgraded to a chip-based platform. *See* 'Bank Negara Malaysia Annual Report 2004' (n 5) 221.

[31] MEPS is a payment consortium of domestic banks. *See* 'Bank Negara Malaysia Annual Report 2001' (n 29) 178.

[32] *Ibid.* MEPS provides for the clearing and settlement services for the shared ATM network.

[33] *See* Chapter 4 section II under A.

[34] *See* Chapter 4 section III under B - 2.

[35] *See Warta Kerajaan Malaysia 23 Oktober 2003 P.U. (A) 398 Akta Sistem Pembayaran 2003 – Perintah Sistem Pembayaran (Instrumen Pembayaran Yang Ditetapkan) 2003* (Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003).

of document[36] and payment of fees[37] prior to issuing the instruments.

A. Policy Issues of Electronic Money

The development of electronic money schemes in Malaysia is still in its infancy but progressing.[38] The volume of electronic money transacted in Malaysia is still small compared to other non-cash payments.[39] Schemes that have been in operation are card-based.[40]

Even though electronic money is still operating on a small scale, the payment systems law includes electronic money within the regulatory framework of the central bank.[41] The cyberlaw, *i.e.* the CMA that dictates the regulation of the converging communications and multimedia industries,[42] may also be invoked to regulate the payment system that accommodates electronic money transactions.[43] However, at present, the MECM, the regulatory authority that administers the CMA, does not license the operator of the said payment system under the Act.

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[36] *See Warta Kerajaan Malaysia 23 Oktober 2003 P.U. (A) 397 Akta Sistem Pembayaran 2003 – Perintah Sistem Pembayaran (Pengemukaan Dokumen dan Maklumat) 2003* (Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003).

[37] *See Warta Kerajaan Malaysia 23 Oktober 2003 P.U. (A) 396 Akta Sistem Pembayaran 2003 – Perintah Sistem Pembayaran (Fi) 2003* (Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003).

[38] *See* Chapter 4 section II.

[39] In 2004, compared to other non-cash payments, in terms of percentage, the volume of electronic money for retail payments is only 0.01%. The usage of electronic money is mainly for road tolls. *See* Table 10.2 on Non-Cash Payments in Malaysia at 'Bank Negara Malaysia Annual Report 2004 (n 5) 223.

[40] *Ibid.*

[41] PSA Part III under Chapter 1 and 2 (sections 23 to 29).

[42] *See* Preamble to the CMA

[43] CMA section 126(1)(c). *See* also Chapter 4 section V under B

Thus, the regulatory framework for electronic money is currently only within the purview of the PSA administered by BNM.[44] Under the PSA, electronic money is gazetted as a DPI,[45] and the issuer must gain approval from BNM prior to issuing the payment instrument.[46] The issuer must comply with the Gazette Orders issued by BNM on fees and submission of document,[47] and is subject to PSA Part III under Chapter 2 on issues related to governance[48] and operational[49] arrangements and changes made to the DPI.[50]

The payment system that accommodates electronic money services is currently not designated by BNM as a designated payment system (DPS).[51] However, the operator

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[44] BNM has designated electronic money as a designated payment instrument (DPI). *See* Chapter 4 section III under B - 2.

[45] Electronic money as a payment instrument is designated (or regulated) by BNM under the PSA thus subjected to certain terms and conditions under the provisions of the Act. *See* Chapter 4 section III under B - 2 on the definition of 'designated payment instrument' (DPI) and the Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 35).

[46] PSA section 25(1)(c).

[47] *See* PSA section 25(1)(a) and (b); Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003 (n 37); and Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 36).

[48] PSA section 27 provides that the issuer must established governance arrangements, which are effective, accountable and transparent.

[49] PSA section 28 provides that the issuer must established rules and procedures to set out the rights and liabilities of the issuer and user, and take measures to ensure prudent management of funds, safety, security and operational reliability of the DPI, including setting up the contingency arrangement.

[50] PSA section 29 provides BNM with the power to prohibit the proposed changes made to the approved DPI or to require the issuer to make any other changes as BNM specify.

[51] PSA section 6 provides BNM with the power to designate a payment system. *See* also Chapter 4 section III under B - 2 on the definition of 'designated payment system' (DPS) and the powers of BNM to regulate DPS under PSA.

of the system must receive written notification[52] from BNM prior to operating the payment system.[53]

In the event that MECM decides to invoke its power under the CMA to license the operator of the payment system, policies on electronic money under a cross-regulatory environment have to be defined. This is because the PSA was based on the Committee on Payment and Settlement Systems' (CPSS) recommendations on the Core Principles for 'Systemically Important Payment Systems' (SIPS).[54] Under SIPS' Core Principle I, the payment system should have a well-founded legal basis under all relevant jurisdictions.[55]

In applying the Core Principles, it is suggested that the roles and policies of the central bank as a regulator is clearly defined.[56] This is crucial to enable affected parties to operate in a predictable environment and to act in a manner consistent with the objectives and policies of the central bank.[57] This recommendation would suggest that in an

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[52] Even though the written notification issued is not an approval or endorsement by BNM, the payment system operator has to pay fees and submit documents to BNM prior to the operation of the payment system. *See* PSA sections 5(1), 5(2) and 5(3); Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003 (n 37); and Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 36).

[53] *See* 'Bank Negara Malaysia Annual Report 2004' (n 5) 221.

[54] *See Penyata Rasmi Parlimen Dewan Rakyat 23 Jun 2003 DR.23.6.2003* (Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003) and Baharuddin AH 'Payment Systems Act 2003' Industry Briefing by Head of Payment Systems Department Central Bank of Malaysia at Kuala Lumpur on 21 October 2003.
Another reason for the formulation of the PSA is to be consistent with the Financial Sector Masterplan. *See* Recommendation 3.27 in Bank Negara Malaysia 'Financial Sector Masterplan' 2001 at 52 and 'The Payment Systems Act 2003' Press Release from Central Bank of Malaysia 16 October 2003.

[55] *See* Committee on Payment and Settlement Systems 'Core Principles for Systemically Important Payment Systems' Bank for International Settlements 2001.

[56] *See* Section 4 under A: Responsibility of the Central Bank in Applying the Core Principles in 'Core Principles for Systemically Important Payment Systems' (n 55). Under Core Principle III, SIPS also recognised the importance of the rights and obligations of operators and participants of the payment systems.

[57] *Ibid.*

environment where there maybe cross-regulatory functions between separate authorities, it would be important for the rights and obligations of both regulatory authorities, BNM and MECM, to be defined by the two separate laws.[58] Only when the rights and obligations under both laws are clear will the legal basis for electronic money schemes in Malaysia be in line with the SIPS' recommendations.

B. Legislation and Regulatory Issues of Electronic Money

BNM's functions and regulatory powers on electronic money are based on the explicit legal authority under the PSA.[59] These include powers to introduce regulations on electronic money,[60] and powers to direct or enforce certain changes in an electronic money scheme.[61] It is not unusual for a central bank to be directly involved with the regulatory regime for retail payments. For example, Australia provides wide-ranging powers to the central bank in relation to retail payment systems.[62]

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[58] Under the current situation, the relevant provisions under the PSA and the CMA that may affect electronic money scheme operating in Malaysia have to be referred. The following Gazette Orders issued by BNM are also applicable: -

i. Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 36); and
ii. Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 35).

[59] *See* Chapter 4 section III under B - 2.

[60] PSA section 69 (1) provides: -

> The Bank may, with the approval of the Minister, make such regulations as may be –
> (a) required or permitted by this Act to be prescribed by regulations;
> (b) necessary or expedient for –
> (i) giving full effect of the provisions of this Act;
> (ii) carrying out or achieving the objects and purposes of this Act; or
> (iii) the further, better or more convenient implementation of the provisions of this Act.

[61] Even though approval has been given by BNM to the issuer to issue electronic money (which is a DPI), this approval may be revoked by BNM due to defaults committed by the issuer, as provided under PSA section 26. BNM also has the power to request the issuer to make changes to the DPI as specified in PSA section 29.

[62] *See* Chapter 3 section IV under C on the powers of the RBA under the Australian Payment Systems (Regulations) Act 1998.

Although BNM has wide powers under PSA to regulate electronic money schemes, regulatory body such as MECM has the power from a separate legislation to regulate electronic money as well.[63] However, BNM may be the most suitable authority to coordinate regulatory functions of electronic money as it has explicit and direct power under the PSA and is currently the only authority regulating electronic money.[64]

The MECM may invoke its powers under the CMA to license the operator of the electronic money scheme. This may occur if a sophisticated payment system is developed to accommodate an electronic money scheme. The CMA defines a provider of application services widely, including the provision of transmission services.[65] This interpretation would incorporate the operator of the payment system within CMA. The reason why MECM does not issue the licence under the CMA is a matter of policy decision taken by MECM.

It is generally accepted that central banks of emerging economies are the best authorities to initiate and develop the regulatory framework for electronic money.[66] It is also suggested that emerging economies may need to adopt a pro-active approach on retail payments, in order to fulfil their policy and to promote and maintain the efficiency and safety in retail payments.[67] This is also consistent with the role of central banks in assessing and reforming payment systems as suggested by the SIPS.[68] Another generally

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[63] *See* Chapter 1 section VI under B.

[64] This is based on the present situation where MECM has not invoked the CMA to regulate the payment systems that accommodate electronic money schemes.

[65] *See* PSA section 6 for definition of 'application services' and 'application services providers'. *See* also Explanatory Memorandum under paragraph 7 of the CMA that illustrated the meaning of 'application service providers' as stated in Chapter 4 section V under B.

[66] *See* Chapter 4 section VI.

[67] *See* 'Policy Issues for Central Banks in Retail Payments' 2003 (n 17) 1 - 5.

[68] *See* Section 2: The Public Policy Objectives in 'Core Principles for Systemically Important Payment Systems' (n 55).

accepted suggestion is that the groups that set the standards must also establish mechanisms for monitoring compliance with those standards.[69]

Thus, BNM as a central bank should take the lead in regulating electronic money. BNM has the authority to collect information and expertise to promote and develop electronic money. BNM has been directly involved with its development since 1996 under the MSC project.[70] The amendments to the Central Bank of Malaysia Act 1958 (CBA) added BNM's objective on payment systems.[71] The enforcement of PSA on payment systems specifically provides explicit power to BNM to regulate electronic money.[72]

Electronic money is a retail payment instrument, which is a product of ICT. Innovations in payment system technologies and instruments can alter the nature or incidence of risks in the retail payments market.[73] BNM has a strong interest in

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[69] *See* 'Policy Issues for Central Banks in Retail Payments' 2003 (n 17) 32 - 34.

[70] The setting up of the Smart Card Team by BNM was during the time when the government appointed BNM to be the lead agency to develop the national multipurpose card, which includes electronic money as one of its application. The team's responsibility was to study the issues on electronic money and produced the 'Concept Request for Proposal' for the development and implementation of the national multipurpose card platform and applications, including electronic money. *Sources from* Payment Systems Department, BNM. *See* also Government of Malaysia and Bank Negara Malaysia *Concept Request for Proposal – Multipurpose Card Flagship Application* (Bank Negara Malaysia Publications Malaysia 1997).
At present, BNM is the chairman of the steering committee of the National Multipurpose Card project. *See* Chapter 4 section III under C - 1.

[71] *See* CBA section 4 (ca), which states that BNM's principal objectives includes 'to promote the reliable, efficient and smooth operation of national payment and settlement systems and to ensure that the national payment and settlement systems policy is directed to the advantage of Malaysia'.

[72] Even though it has been argued in Chapter 4 section V under A that BNM in implementing the PSA is yet to decide on various unsettled issues on electronic money, currently, electronic money is only subjected to BNM under the PSA. As a DPI, the potential issuer of electronic money is subjected to approval from BNM and various terms and conditions imposed under the PSA and the Gazette Orders. *See* PSA Part III Chapter 1 and 2; Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 36); Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 35); and Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003 (n 37).

[73] *See* 'Policy Issues for Central Banks in Retail Payments' 2003 (n 17) 22.

maintaining the safety of the markets and in supporting relevant market development on ICT.[74]

BNM would have to be the main authority in monitoring electronic money, as BNM is the only authority that regulates the product. At present, MECM has not invoked its regulatory power under the CMA to issue licence to the operator of the payment system that provides for electronic money services. BNM would then be the main authority to inform other regulatory bodies or relevant authorities of any development of the payment system that may affect these parties.

Furthermore, the main objective of MECM under the CMA is not specifically targeted towards regulating payment systems. BNM's functions and responsibilities towards payment are more direct, where its roles on payment issues are specifically stated in the CBA[75] and PSA.

The main function of MECM under the CMA is to regulate converging communication and multimedia industries.[76] As such, possible regulatory involvement of MECM on retail payment instruments such as electronic money is incidental, based on the wide provisions provided under the CMA.[77]

The function of the MDC also differs from BNM's direct responsibility on payment systems. The MDC is a non-regulatory corporation established by the

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[74] *See* 'Financial Sector Masterplan' (n 54) 35 and 52 (Recommendation 3.27).

[75] CBA section 4 (ca). *See* also Chapter 4 section III under A for the provisions provided under this section.

[76] *See* the Preamble to the CMA Explanatory Statement.

[77] For example, paragraph 5 of the CMA Explanatory Statement provides: -

> The activities and services regulated under this Act include traditional broadcasting, telecommunications, and online services, including the facilities and networks used in providing such services, as well as the content which supplied via the facilities and network.

The phase 'online services, including the facilities and networks used in providing such services' may include payment system that accommodates electronic money transactions.

government to develop and promote ICT in Malaysia.[78] MDC is also responsible for the development and implementation of the government's MSC project.[79] As such, MDC involvement would be to ensure that electronic money is developed in consonance with the government's policies on ICT.[80]

Based on the different objectives and degrees of involvement of BNM, MECM and MDC on electronic money issues, the cooperation has to be based on different purposes.

III Cooperation Among BNM and Other Authorities

The cooperation among the central bank and other authorities with interests in retail payment issues is not new and has been recognised as essential.[81] In many countries, cooperative relationships have been established although the types of cooperation vary from one country to another.[82] Two types of cooperation have been identified, namely: -[83]

i. Cooperation between a central bank and other public authorities; and
ii. Cooperation between a central bank and private sectors.

This thesis only analyses the relationship between BNM and other public authorities, which may have an interest in the regulations or the development of retail payments. The cooperation among a central bank and other government authorities is

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[78] *See* Chapter 1 section V under B - 3.

[79] *Ibid.*

[80] *See* Chapter 1 section V under B - 2 and Chapter 4 section II under A.

[81] *See* 'Policy Issues for Central Banks in Retail Payments' 2003 (n 17) 14 - 15.

[82] *Ibid.*

[83] *Ibid* 14.

based on regular liaison and the sharing of information.[84] This is designed to ensure a degree of coordination so that the actions of one authority do not cause unintended effects on another.[85]

BNM, as the main regulatory authority, would have to ensure that the approval of electronic money as a DPI and the monitoring of the instrument involve the other affected regulatory authority.[86] To ensure successful implementation of possible joint regulatory functions, BNM has to make certain that the cooperation is not only established, but also effective.

Electronic money schemes are likely to undergo changes and enhancements. These developments may affect the payment system that accommodates the electronic money. Even though in the present situation the operator of the payment system is not a licensee under the CMA, the participation of MECM is important, if it is to keep abreast with the new developments of the existing electronic money schemes in Malaysia.

BNM should disseminate information on the mechanism of the payment system that accommodates the electronic money scheme to MECM. This would include information on any changes made to the system. In the event that MECM wishes to license the operator of the said system based on the enhancement made,[87] MECM would be ready to cooperate with BNM for a possible joint regulatory regime.

It is necessary that relevant authorities recognise cooperation as a situation where people work together to achieve the same end. What makes it possible for cooperation to

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[84] *Ibid.*

[85] *Ibid.*

[86] Under the present situation, cross-regulatory functions may exist between BNM and MECM. MECM may issue licences to the operators of the payment systems that accommodate electronic money schemes based on its wide powers under the CMA.

[87] MECM may issue class or individual licences to the operator of the said payment system based on the CMA section 126(1)(c)(aa) and (bb). *See* Chapter 4 section V under B for the said provisions.

emerge is the fact that the players might meet again.[88] This possibility means that the choices made today not only determine the outcome of this move, but can also influence the later choices of the players.[89]

Cooperation cannot be achieved if efforts are only made by some of the players and there are no common and realistic goals.[90] Cooperation must also be based on reciprocity.[91] Once reciprocity is established between the players, the cooperation can be maintained and protects itself from problems that may occur in the future.[92]

Over-ambitious goals may not be credible and may end up being counterproductive. It is imperative to understand why cooperation would benefit the authorities.[93] Turf wars between government agencies should also be avoided as they can cause unintended damage to the cooperation established.[94]

A. Why Cooperation is Crucial

Cooperation should be conducted to attain certain goals. On issues related to electronic money, the goals stated by the Bank for International Settlements (BIS) can be taken into consideration.[95] It is recommended that for retail payment, the common goals

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[88] *See* Axelrod R *The Evolution of Co-operation* (Penguin Group United Kingdom 1990) 12.

[89] *Ibid.*

[90] *Ibid* 21.

[91] *Ibid.*

[92] *Ibid.*

[93] *Ibid* 12. The reason why parties would want to cooperate is due to the present and future benefits that may derive from the cooperation.

[94] *See* Yam J 'Broadbrush Picture of Asian Monetary Co-operation' Speech by the Chief Executive of the Monetary Authority of Hong Kong in Hong Kong on 21 September 1997. *Available at* <http://www.bis.org> last visited March 2004.

[95] *See* 'Policy Issues for Central Banks in Retail Payments' 2003 (n 17) 2.

that central banks and relevant authorities should have are as follows: -[96]

i. To address the legal and regulatory impediments to market development and innovation;
ii. To foster competitive market conditions and behaviours; and
iii. To support the development of effective standards and infrastructure arrangement.

Cooperation among BNM and other authorities can be divided into two types. The first type is the cooperation between BNM and regulatory authorities such as the MECM. The second type is the cooperation between BNM and relevant non-regulatory authorities like the MDC. Both types of cooperation should be conducted in line with the public's interest.

1. Avoiding Gaps and Inconsistencies

The avoidance of gaps and inconsistencies involves various areas, including policies, legal framework and approval and monitoring of electronic money schemes in Malaysia. It is important to avoid gaps and inconsistencies in order to be free from ill effects and damaging uncertainties.[97] Electronic money, as a retail payment instrument, is continuously developing. A regulatory authority, such as BNM, may find difficulties in keeping up with the changing circumstances, in particular the technical innovations and the changing profiles of market participation. If these changing circumstances are not recognised, BNM may find gaps and inconsistencies in information in relation to the development of electronic money. Cooperation between BNM and other authorities in the sharing of information may narrow the gaps and inconsistencies thereby maintaining stability and certainty.

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[96] *Ibid.*

[97] *See* 'Broadbrush Picture of Asian Monetary Co-operation' (n 94).

The avoidance of gaps and uncertainties is also crucial for the regulatory authorities to identify the rights and responsibilities of all parties, such as the functions of the operator of a payment system that accommodates the electronic money scheme and the issuer of electronic money.

2. Ensuring Transparency

Transparency refers to the process by which information about existing conditions, decisions and actions is made accessible, viable and understandable.[98] Transparency contributes to the efficient allocation of resources by ensuring that market participants have sufficient information to identify risks and to distinguish one firm's, or one country's circumstances from another.[99] Transparency helps to inform markets of accurate information, thereby helping to stabilise markets during periods of uncertainty and also contributing to the effectiveness of announced policies.

BNM, as the main authority, gathers information and documents and disseminates to all parties concerned. This central body disseminating the relevant information must ensure timely and accurate distribution. BNM should be able to exercise its discretion as to which information to disseminate. [100]

To encourage the use of electronic money by market participants and users, the relationship among relevant authorities has to be transparent. Transparency would allow

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[98] *See* Executive Summary of the 'Report of the Working Group on Transparency and Accountability' Bank for International Settlements 1998 at v.

[99] Information is the essence of a perfect market. *See* for example, Stiglitz JE and Bhattacharya A 'Underpinning for a Stable and Equitable Global Financial System: From Old Debates to a New Paradigm' A Paper prepared for the 11th Annual Bank Conference on Development Economics on 28 - 30 April 1999. *Available at* <http://www.siteresources.worldbank.org/INTABCDEWASHINGTON1999/Resources/bhatta.pdf> last visited July 2005.

[100] Suggestion has been made for the public sector to publish information regarding the policy decisions in a timely, accurate and comprehensive manner to the general public and market participants. *See* 'Report of the Working Group on Transparency and Accountability' (n 98) v.

market participants to garner sufficient information to enable them to make sound judgments.[101]

Policies announced by BNM and other relevant authorities can reduce uncertainties about policy intentions.[102] They will also restrain the authorities from misleading the public and market participants. Practices and policies that need improvement can be highlighted and provided with incentives to improve them. [103]

3. Promoting Accountability

Accountability is intertwined with the issue of transparency. Accountability is the need to justify and accept responsibility for the decisions taken with the objective taken into account.[104] Accountability imposes discipline on decision makers, thereby helping to improve the quality of the decisions taken. Transparency, on the other hand, is the quality that helps promote accountability by obliging decision makers to make their decisions and the reasoning behind them known.[105]

Accountability is a responsibility that has to be upheld by each authority.[106] As each authority has its own specific roles and objectives to meet, there must be clear coordination among the authorities to clarify their roles. Only when the functions are clear can each authority be made accountable for its actions.

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[101] *Ibid* 1.

[102] *Ibid* 13.

[103] *Ibid.*

[104] It was argued that transparency is essential to accountability. For example, legislature needs information about the policy actions and the rationale for the policy if it is to hold the central bank accountable. *See* Meyer LH 'Comparative Central Banking and the Politics of Monetary Policy' Paper by Member of the Board of Governors of the United States Federal Reserve System at the National Association for Business Economics Seminar on Monetary Policy and the Markets in Washington DC on 21 May 2001. *Available at* <http://www.bis.org/review/r010523b.pdf> last visited March 2004.

[105] *See* 'Report of the Working Group on Transparency and Accountability' (n 98) v.

[106] *Ibid* vii - viii.

Accountability will ensure that there is a certain amount of discipline in ensuring that the authorities are answerable to the general public and market participants regarding the decision that they have made.[107] A better-informed public will also strengthen the credibility and public understanding of the issues in question.[108]

B. Areas of Cooperation

This section discusses the areas in which cooperation between BNM and the authorities should be carried out. Cooperation is all about exchanging information and expertise, policy coordination, mutual assistance to facilitate and for making forward-looking arrangements for further development.[109] There must be some guiding principles that the authorities must agree upon in establishing the cooperation. In the United Kingdom, the coordination for financial stability is based on the Memorandum of Understanding (MOU) between the Treasury, the Bank of England (BOE) and the Financial Services Authority (FSA). The framework for cooperation is based on transparency, accountability, and no duplication of functions and regular exchange of information.[110] Another example is the MOU exchanged between the Riksbank and the Swedish FSA, which outline the responsibilities of the two authorities in the area of financial stability. Their aim is to facilitate cooperation and increase efficiency in the work of each authority towards the common objective of financial stability.[111]

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[107] *Ibid.*

[108] *Ibid.*

[109] *See The Evolution of Co-operation* (n 88) 11 - 12.

[110] *See* Memorandum of Understanding between the Treasury, the Bank of England and the Financial Services Authority. *Available at* <http://www.bankofengland.co.uk> last visited October 2003.

[111] The Riksbank states that the role of the Swedish FSA and the Riksbank must be clearly defined. The main role of the Swedish FSA is to ensure that institutions operating in the system are sound and the responsibility of Riksbank is for the oversight of systemic risks and the efficiency of the infrastructure. *See* Heikensten L 'How To Promote and Measure Central Bank Efficiency' Speech by Governor of Sveriges Riksbank at the Workshop on 'Central Bank Efficiency' in Stockholm on 23 May 2003. *Available at* <http://www.bis.org> last visited May 2004.

1. Policy Coordination

One of the areas of cooperation is related to policies on electronic money. Policies would range from specific issues relating to the regulatory framework, the mechanisms on approval and monitoring, to broader issues such as the development of electronic money. Current policies on electronic money are mainly decided by BNM. As such, BNM has to keep abreast with the policy developments of MECM and MDC, which may affect electronic money issues.

Both the MECM and MDC are authorities established to develop ICT.[112] BNM has been appointed to lead the development of the national multipurpose card, which includes electronic money applications.[113]

In the event that MECM decides to license the operator of payment system of electronic money, policy coordination between BNM and MECM will become important. The MECM's regulatory policies under the CMA must be consistent with BNM's under the PSA. This is necessary so as not to impair the competition between the different types of institutions that are providing the services to the public. As the policy in Malaysia is to allow both the financial and non-financial institutions to enter the market and develop electronic money schemes,[114] cooperation is needed to create a level playing field among the operators that provide the said payment systems.[115]

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[112] *See* Chapter 1 section V under B - 3 and 4.

[113] *See* Chapter 4 section II under A.

[114] The PSA is in line with the government's broad policies on ICT *i.e.* to ensure competition, all sectors are encouraged to participate in the development of ICT. *See* Chapter 1 section V under A and B on Malaysian Vision 2020 and the MSC project.

[115] *I.e.* operators from both financial and non-financial institutions.

2. Developments in Legislation and Regulatory Framework

The involvement of MECM on electronic money is based on its powers under the CMA. The CMA under section 126(1)(c) has the power to issue licences to application services.[116] As discussed in Chapter 4, payment systems that accommodate electronic money schemes may be interpreted as 'application services' under the CMA.[117] Based on the provisions provided for under CMA section 126, a licence, which can be either a class[118] or an individual licence,[119] may be issued by MECM to the operator of the said system.

The Minister for MECM under the Communications and Multimedia (Licensing) Regulations 2000 has issued a class licence for the providers of application services.[120] This class licence, which was issued on 17 September 2002, has categorised 'Internet access services' as 'applications services'.[121] The class licence states that a licence is granted in respect of the provision of any applications services as follows: -[122]

(a) Audio text hosting services provided on an opt-in basis;

(b) Directory services;

(c) Internet access services; or

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[116] CMA section 126 (1)(aa) and (bb) states that the licence may be an individual or a class licence. *See* Chapter 1 section VI under B for provisions provided for under this section.

[117] *See* Chapter 4 section V under B.

[118] CMA section 126(1)(c)(bb). *See* also CMA section 6 which defines 'class licence' as a 'licence for any or all persons to conduct a specified activity and may include conditions to which the conduct of that activity shall be subject.'

[119] CMA section 126(1)(c)(aa). *See* also CMA section 6 which defines 'individual licence' as a 'licence for a specified person to conduct a specified activity and may include conditions to which the conduct of that activity shall be subject.'

[120] Licence No: ASP/C/2002/2.

[121] *Ibid.*

[122] *Ibid.*

(d) Messaging services.

As the provisions in the class licence above applies to Internet access services, MECM may want to subject the operator of the payment system that accommodates electronic money schemes via the Internet.

Currently, the operator of the payment system of the Touch 'n Go card, which allows participating consumers to download funds using the Internet,[123] is not subject to the class licence. As the Touch 'n Go card is not capable of making payment online,[124] and the Internet is utilised only for the purpose of downloading funds, the intention of MECM is unclear. It may be that MECM will only make the class licence applicable to the operator in the event that the card is capable of facilitating online payment transactions for goods and services purchased by participating consumers via the Internet.

The class licence issued for the providers of application services is subject to various conditions. It is stipulated in the licence that the licensee would be subject to the standard conditions and also to other conditions as may later be declared by the Minister.[125] The class licence issued already has seven standard conditions for the licensee. This includes compliance with the CMA[126] and all other subsidiary legislation, guidelines or regulatory policies issued under the CMA.[127] The licensee also has to comply with the consumer codes, which is registered under the CMA.[128] There is also an indemnity clause where the licensee has to indemnify the Minister or the MCMC against any claims arising from any breaches or failing on the part of the licensee.[129] Besides

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[123] *See* Chapter 4 section II under B.

[124] *Ibid.*

[125] *Ibid.*

[126] Paragraph 1.1 of ASP/C/2002/2.

[127] Paragraph 1.2 of ASP/C/2002/2.

[128] Paragraph 4 of ASP/C/2002/2.

[129] Paragraph 5 of ASP/C/2002/2.

these conditions is the requirement for the licensee to take safety measures regarding all apparatus, equipment and installations operated by the licensee where proper care has to be taken regarding any electrical emission or radiation emanating from the apparatus, equipment or installations used.[130]

The Minister for MECM has the discretion to issue individual licences to any applications service provider.[131] If MECM decides to issue an individual licence to the operator of the payment system in electronic money, specific terms and conditions may be applicable to the operator, which can be more stringent.

Under the current legal framework, the operator in question is only subjected to the PSA,[132] but not the CMA. However, in the event that MECM decides to invoke the CMA, four possible scenarios may arise to the operator of the payment system: -

i. The operator is subject to written notification provided by BNM[133] and class licence issued by MECM;[134]
ii. The operator is subject to written notification provided by BNM[135] and individual licence issued by MECM;[136]
iii. If BNM decides to designate the payment system as a DPS, the operator will be subject to approval being issued prior to the operation of the

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[130] Paragraph 6 of ASP/C/2002/2.

[131] CMA section 126(1)(c)(aa).

[132] Operators of payment systems are currently subjected to written notification issued by BNM prior to the operation of the systems as provided under PSA section 5(1).

[133] PSA section 5(1).

[134] *See* CMA section 126(1)(c)(bb) and the class licence issued under the Communications and Multimedia (Licensing) Regulations 2000 (Licence No: ASP/C/2002/2).

[135] PSA section 5(1).

[136] CMA section 126(1)(c)(aa).

system.[137] The operator is also subject to the class licence issued by MECM;[138] or

iv. The operator is subject to approval issued by BNM to operate the DPS[139] and also the individual licence issued by MECM.[140]

Participation of MECM is important even if the Ministry's involvement in electronic money schemes in Malaysia is not essential at this stage.[141] Enhancement of electronic money schemes is mainly based on the decision made by market participants. Unless a policy stance is made by MECM not to invoke its powers under the CMA to licence the operator of the payment system, the possibility of MECM being involved is only a matter of time.

3. Information Sharing

Information sharing is important among BNM and other authorities to enhance knowledge of the electronic money schemes in operation. Such knowledge would enable the regulatory authority to regulate the electronic money schemes more effectively. Successful monitoring of the schemes would also depend on how comprehensively the regulatory authorities understand the structure of the scheme in operation. Specifically, in a situation where there may be joint regulatory functions between BNM and MECM, effective implementation of regulatory functions under separate legislation may only be achieved through information sharing.

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[137] PSA section 6(1) and (2).

[138] *See* the CMA section 126(1)(c)(bb) and the class licence issued under the Communications and Multimedia (Licensing) Regulations 2000 (Licence No: ASP/C/2002/2).

[139] PSA section 6 (2).

[140] CMA section 126(1)(c)(aa).

[141] This is because under the present situation, the MECM has not invoked its power under the CMA to issue any licence to the operators of the payment systems that accommodate electronic money schemes in Malaysia.

Information shared among the authorities involved may not be limited to specific information for the purpose of regulating and monitoring retail payment products, but also to information on the organisational structure of each authority.

The procedure of information sharing among the authorities involved has to be established. Information sharing arrangements should be in compliance with the legal foundation.[142] Continuous enhancement of the arrangement is important because the structure of any of the authorities could be altered over time.

Different types of information are needed based on the legal and regulatory regime and the objectives within which the authority operates. BNM is the authority that has the widest range of information on electronic money and potential regulatory authorities like MECM, would seek information from BNM in the event that it decides to regulate electronic money schemes.[143]

As the coordinator, it would be important for BNM to appreciate that all those involved in the sharing of information may have valuable insights or information to be shared with each other, and should therefore encourage the flow of information. Information contributed would depend on each authority's roles.[144] For example, MECM which may have future regulatory functions, may want information which relates to issues on the mechanism of the electronic money scheme in deciding whether the mechanism invokes CMA or otherwise. On the other hand, a non-regulatory body like the MDC, whose main concern is with the development of ICT in Malaysia, would require more general information from BNM. For example, statistics on the usage of electronic

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[142] *See* Basel Committee Publication 'Framework for Supervisory Information Sharing Paper' Bank for International Settlements 1999.

[143] Based on the current situation where BNM has designated electronic money as a DPI under the PSA. *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 35).

[144] *See* 'Framework for Supervisory Information Sharing Paper' (n 142) which states that in a group whose legal, business line and managerial structure diverge significantly, supervisors will only be interested in information about related issues. Thus, the role of a coordinator will be different in each case.

money in Malaysia would be useful information for the MDC as it can use and relate the data in enhancing ICT development.[145]

4. New Development of Electronic Money

Issues relating to the development of electronic money are another crucial area that needs effective cooperation among authorities. The development could be looked at from several aspects, including the regulatory and technical issues. Technical progress can influence the regulatory development on electronic money. For example, when there is technical development in electronic money schemes such as its security features by using digital signature, cooperation on regulatory matters between BNM and MECM would become essential. The Digital Signature Act 1997 (DSA) may be invoked, thus involving MECM as the authority that administers this legislation. The MCMC would similarly be involved, as it would be the authority that looks at the exercising, discharging and performing of the duties, powers and functions under the DSA.[146]

It would also be important for MECM to be involved with the development of electronic money from an early stage. Even though currently MECM does not perform any regulatory function, early involvement by MCMC, whose role is to ensure the smooth implementation of CMA[147] and DSA,[148] would be beneficial in terms of their readiness for the regulatory functions that they may have in the future.

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[145] It may be important for MDC to have the breakdown by percentage for the value and volume of non-cash payment transactions in order to see the position of electronic money compared to other non-cash payment instruments.

[146] *See* Chapter 1 section V under B - 6 (a) for discussion on the DSA.

[147] *Ibid.*

[148] *Ibid.*

As for MDC, that is entrusted with the responsibility to ensure the continuous development of ICT,[149] it would also need to be involved since electronic money has been identified as one of the applications developed under the MSC project.[150]

Continuous training of personnel in each authority should be made available to ensure that they gain necessary knowledge and expertise. Personnel who are involved with the technical issues may need to be informed through training, about matters relating to legal requirements and the law pertinent to electronic money.[151]

The same applies to legal personnel. Only with accurate and sufficient knowledge on how certain mechanisms work will the legal and regulatory framework be implemented effectively. In a situation where a new payment system is developed, MCMC legal personnel must be knowledgeable about the new system and its mechanism in order to establish whether or not the new system will invoke the CMA section 126(1)(c).[152] As class licence for 'application services' has already been issued,[153] the legal personnel must be able to understand how the mechanism involving the new payment system is within the ambit of 'application services' under CMA. Basic technical knowledge is important in the event that MECM decides to issue an individual licence.[154] Conditions that may be imposed[155] on the operator of the new payment system can only

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[149] *See* Chapter 1 section V under B - 3.

[150] *See* Chapter 1 section V under B - 2 and Chapter 4 section II under A.

[151] Even though it is not expected that technical personnel be experts on the laws involved, basic knowledge on provisions provided under the legislation is important. For example, personnel in MCMC, on looking at the technicality of the mechanism of a new electronic money scheme, would be able to appreciate that the scheme may invoke certain provisions under the CMA and would further bring the matter up to the appropriate person involved with the legal issues.

[152] A payment system that accommodates electronic money transactions may be interpreted as 'application services' under the PSA. MECM may decide to license the operator of the said payment system. *See* Chapter 4 section V under B and section II under B of this Chapter.

[153] *See* section III under B - 2 on class licence issued under the Communications and Multimedia (Licensing) Regulations 2000 (Licence No: ASP/C/2002/2).

[154] CMA section 126 (1)(c)(aa).

[155] *Ibid.* Specific terms and conditions may be imposed on the individual licensee.

be effective if there is a complete understanding of the licence and the terms attached to it.[156]

Terms and conditions, which the authority imposes on the relevant party, should be reasonable and not impede further development of electronic money. This may only be achieved if the legal personnel have an understanding of the government's policies on ICT.[157]

It is also important that personnel in each authority are kept informed, not only on matters directly involving the policies and legislation of their own authority, but that of other authorities.[158] Especially for the lead regulatory authority such as BNM, the understanding and knowledge of policies of another potential regulatory authority is crucial in order to build an effective joint regulatory framework.[159] Training should not only be organised by third parties,[160] but also among the personnel of all authorities involved.[161]

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[156] In the process of issuing an individual licence, the mechanism of the payment system has to be fully understood by the technical personnel of MCMC. The legal personnel also need some background knowledge of the mechanism to ensure that the terms and conditions imposed on the licensee are reasonable and can be implemented.

[157] In situation where BNM would want to impose certain terms in the event that a new payment system which accommodates the electronic money transactions is to be designated under PSA section 6(1), the personnel involved may need information on the current policies of the government on ICT, as electronic money has been identified as one of the applications to be developed for ICT enhancement.

[158] For example, as the main authority for electronic money, personnel in BNM who handle the electronic money issues have to be informed, through training, the policies and legislation administered by MECM.

[159] For example, in a situation where a new payment system to accommodate electronic money is designated as DPS under the PSA, and also licence under the CMA, the operator may be subjected to separate terms and conditions imposed by BNM and MECM. Personnel of both authorities have to gain the knowledge and understanding of the relevant provisions under the PSA and CMA in order to eliminate gaps and to avoid overlapping issues involving both parties.

[160] This would mean independent consultants who are experts on matters related to electronic money.

[161] Personnel from BNM, MECM and MDC may jointly attend training, where expertise and knowledge from each authority can be exchanged. It has been argued by BIS that training at each other's authority should be pursued, as it would benefit the authorities from the input and support given by the other. *See* Basel Committee on Banking Supervision 'Essential Elements of a Statement of Cooperation Between Banking Supervisors' Bank for International Settlements 2001.

C. Limitation of Cooperation

It is important for the authorities to bring material issues to the attention of other parties so that the authority concerned can respond in a timely and satisfactory manner.[162]

Although cooperation through information sharing is important, there are certain limitations. For example, some categories of information are costly to compile, making infrequent disclosure more effective.[163] It may not be important for such information to be obtained immediately. Such information could be efficiently released on a periodical basis.

Another limitation is the procedure for the sharing of information, which may become unsatisfactory for a particular authority. As such, the procedure will have to be continually reviewed to accommodate any changes made.

Among the information received by an authority, some information requires value judgment to be made by another authority.[164] If MECM were a recipient of information disseminated, it would be likely that MECM would rely on BNM's judgment in valuing whether the information is irrelevant. BNM would have the additional burden of having to analyse all the information received and to make judgments on the importance of the information.

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[162] *See* Basel Committee Publications 'Principles for Supervisory Information Sharing Paper' Bank for International Settlements 1999.

[163] It has been argued that on issues related to transparency, some categories of information are too costly to compile. In order to support transparency, it was recommended that the benefits and costs of greater transparency be given further consideration so as to determine the appropriate degree of transparency. In determining the appropriate degree of transparency, the benefit must be balanced against the cost. Apart from this is the issue of confidentiality that must be considered. *See* 'Report of the Working Group on Transparency and Accountability' (n 98) v.

[164] *See* 'Principles for Supervisory Information Sharing Paper' (n 162).

IV Integration Among BNM and Other Authorities

Developments of retail payment systems are complicated and not unique to emerging economies like Malaysia.[165] A study has shown that both the operators and the users of retail payments have the impression that the laws of payment systems are complex, confusing and cause uncertainties.[166] This is especially true as retail payment instruments are now hybrid in nature.[167] When asked to make a suggestion on how to improve the issues in question, interviewees fail to provide any specific suggestion for improvement to foster innovation in this area.[168]

In order to provide clarity to all parties affected by the development of electronic money, the gist of both legislation, *i.e.* the PSA and the CMA has to be understood by the operators, issuers and the end users of electronic money schemes. All parties have to appreciate that since the framework of electronic money is still developing, the laws relating to them cannot be comprehensive and have to be enhanced with time. It has been stated in SIPS that although sound legal underpinnings are very important, absolute legal certainty is seldom achievable.[169] However, this should not deter authorities from seeking to establish a sound legal basis for payment systems. What is crucial is the clear understanding of the laws and their applicability to electronic money. In order to achieve the understanding, cooperation among authorities that administer the laws on electronic money must exist so that all parties can be certain of the legal framework that is in place.

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[165] Malaysia acknowledged that ICT affects the development of payment systems. The development of payment instruments like electronic money is considered important for ICT enhancement. As part of the effort to ensure clear direction on this issue, BNM's Masterplan includes the recommendation to develop the regulatory framework for electronic money. *See* Recommendation 3.27 'Financial Sector Masterplan' (n 54) 52.

[166] *See* Board of Governors of the Federal Reserve System 'Staff Study 175 – The Future of Retail Electronic Payments Systems: Industry Interviews and Analysis' December 2002. *Available at* <http://www.federalreserve.gov> last visited March 2004.

[167] *Ibid.*

[168] *Ibid.*

[169] *See* Paragraph 7.1.3 of the background discussion under Core Principle I of SIPS. *Available at* 'Core Principles for Systemically Important Payment Systems' (n 55).

As the issue on electronic money involves various authorities, both regulatory and non-regulatory, the authorities' main aim of establishment and their objectives on electronic money have to be clearly defined. This is important before cooperation can be established among them.

A main regulatory authority such as BNM has to identify its principal objectives as a central bank under the CBA,[170] which includes its direct involvement on payment systems under the same Act.[171] BNM also has to identify its powers under the PSA on regulating retail payments such as electronic money.[172]

At the same time, the main aims of the MECM establishment under the CMA have to be identified.[173] The fact that MECM's aims under the CMA are to regulate converging communication and multimedia industries and not payment systems has to be taken into consideration.[174] As possible regulatory involvement of MECM on retail payment instruments such as electronic money may be incidental, based on the wide powers under the CMA, the objectives and purpose of MECM in regulating this product has to be reflected.[175]

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[170] CBA section 4.

[171] CBA section 4(ca). *See* also section II under B.

[172] PSA under Part II and III identifies BNM's direct powers in regulating payment systems and payment instruments.

[173] CMA section 3.

[174] *See* the Preamble to the CMA Explanatory Statement.

[175] For example, paragraph 5 of CMA Explanatory Statement provides: -

> The activities and services regulated under this Act include traditional broadcasting, telecommunications, and online services, including the facilities and networks used in providing such services, as well as the content which supplied via the facilities and network.

The phase 'online services, including the facilities and networks used in providing such services' may include the payment system that accommodates the electronic money scheme.

As a non-regulatory body, which is established for the purpose of ensuring the development of ICT in Malaysia, MDC's involvement on electronic money has to be linked with its main objectives of establishment.[176] As electronic money has been identified as a product important for ICT development, MDC's involvement in electronic money is to ensure that any enhancement of the product is in line with the overall policies on ICT development.[177]

The table below illustrates the main objectives of each establishment, including their regulatory powers or involvements on electronic money.

[176] The MDC is a corporation established by the Government of Malaysia to develop and promote ICT in Malaysia. *See* Chapter 1 section V under B - 3.

[177] *See* Chapter 1 section V under B - 2, Chapter 4 section II under A and section II under B of this chapter.

Authorities	Principal Objectives	Powers in Relation to Electronic Money	Types of Powers
BNM Regulatory Authority	**Under the CBA** • Issue and safeguard Malaysian currency. • Act as banker and financial adviser to the government. • *Promote monetary stability and sound financial structure.* • *Promote efficiency of payment and settlement systems.* • Influence credit situation.	**Under the PSA** • Issue written notification prior to operation of payment system. • Designate a payment system as DPS. • Designate a payment instrument as DPI.	Direct powers to regulate payment systems and payment instruments based on the PSA Parts II and III.
MECM Regulatory Authority	**Under the CMA** • *Promote national policy on communications and multimedia industry.* • Establish licensing and regulatory framework for communications and multimedia industry. • Establish the function of MCMC. • Establish powers for administration under the CMA.	**Under the CMA** • May issue class licence to the operator of payment system. • May issue individual licence to the operator of payment system.	Incidental powers based on wide definition of 'application services' providers under the CMA section 126 (1)(c) that may include operator of payment system.
MDC Non-regulatory authority	• *Develop and implement MSC for ICT development.* • Assist in developing cyberlaws and formulate policy on ICT. • Facilitate MSC-status companies.	Based on this, electronic money has been identified as an application important for ICT development.	Non-regulatory powers in ensuring development of electronic money are in line with policy on ICT.

Note: Italicised areas are related to ICT development and underlined areas are connected to regulatory issues.

Even though MECM may invoke its regulatory functions under the CMA to regulate electronic money, currently there is no formal cooperation established between BNM and MECM. There is also no formal cooperation established between BNM and MDC on electronic money. It is proposed that the cooperation among BNM and other authorities, be it another possible regulatory authority like the MECM or a relevant authority such as MDC, be formally recognised. A formal recognition of cooperation is the first step that authorities should establish in identifying each authority's roles and functions, and to get the endorsement by all parties involved.[178] Furthermore, a formal cooperation is important to ensure that there is consistency of the roles and functions. This is especially crucial for authorities that have regulatory functions based on two separate laws, such as BNM and MECM.[179]

Formal cooperation or relationship among the authorities can be carried out by two methods. It can be in the form of a law,[180] or what is known as 'soft laws'. The purpose of enacting a law is to reflect the current needs and recognise the present value of the society. It has to be responsive and be able to anticipate emerging problems from current activities. [181] In order to be responsive, laws require the ability to define the problems and identifying potential solutions.[182] Soft law on the other hand, is considered as a non-binding norm that contains normative elements leading to the expectations of compliance.[183] The importance of soft law is that it will generate expectations about

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[178] In establishing the cooperation, the main objectives of the parties are important and have to be taken into consideration. *See* the table under this section for the summary of each authority's main objectives.

[179] The provisions in the PSA and the CMA, which affect electronic money schemes, must be clearly defined in order to avoid ambiguity in its application.

[180] Also known as 'hard law'. *See* Shelton D 'Introduction' in Shelton D (ed) *Commitment and Compliance - The Role of Non-Binding Norms in the International Legal System* (Oxford University Press New York 2000) 1, 11 - 12.

[181] *Ibid* 8.

[182] *Ibid.*

[183] *Ibid* 2.

future behaviour and attitude of the parties, providing a measure of stability within the evolving system while maintaining some flexibility.[184]

A MOU, which is considered as a soft law has become a common form of undertaking due to legal rigidity and the development of complex regime.[185] Issues on electronic money are still developing which may lead to complexity in applying the laws and in establishing the cooperation between BNM and MECM under the two separate Acts. As cooperation would involve technical details and the need for a rapid response among the authorities, a legally binding norm may be inappropriate to cater for the issues on electronic money.[186] As currently there is no formal recognition of the cooperation among the authorities, soft law in the form of a MOU would be able to provide the flexibility and effective response among the authorities on issues which have not yet been identified.[187]

On issues which are still developing such as electronic money, it would be important to have a mechanism that is able to be quickly amended or replace if it fails to meet current challenges where legally binding norms may not provide.[188] The soft laws that have been established have shown that parties are inclined towards establishing

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[184] *See* Chinkin C 'Normative Development' in *Commitment and Compliance - The Role of Non-Binding Norms in the International Legal System* (n 180) 21, 22 - 23.

[185] *See* Shelton D 'Introduction' in *Commitment and Compliance - The Role of Non-Binding Norms in the International Legal System* (n 180) 1, 10.

[186] *Ibid* 12.

[187] *Ibid* 13.
Experience has shown that parties involved should take care that any statement made is not too prescriptive that they find themselves constrained in their ability to communicate. *See* also 'Essential Elements of a Statement of Cooperation Between Banking Supervisors' (n 161).
This section focuses on the establishment of the voluntary cooperation between BNM and MECM in a form of a MOU. In section IV under B - 3, the break down of cooperation and subsequent dispute between these authorities under the MOU is discussed. Further, the possibility of legislating the cooperation to enhance the commitment between the regulatory authorities is also looked into.

[188] *See* Shelton D 'Introduction' in *Commitment and Compliance - The Role of Non-Binding Norms in the International Legal System* (n 180) 1, 13.

obligations. Soft laws now include provisions to establish cooperation among parties and incorporating supervisory mechanisms traditionally found in hard law text.[189]

The question that has been put forward in establishing soft law is whether the parties will comply with the provisions of the soft law. In examining whether there will be compliance, the variables that may influence the decision to comply have to be looked at.[190] It is not always necessary to have sanctions in order for parties to comply, as the source of compliance also depends on the nature of the issue being regulated, who the parties try to influence, and the array of interest and policy of each party to the soft law.[191] The reason to comply with obligations are not only based on the possibility of sanctions, but also due to the political situation, moral values, economic progress and from the recognition of the need to ensure sustainability of common good.[192]

Authorities such as BNM, MECM and MDC are government bodies with specific roles to develop ICT and to ensure that the development will benefit the public.[193] Retail payment such as electronic money has also been identified as one of the applications crucial for ICT development. As ICT is recognised as one of the factors to enhance economic growth,[194] the smooth and efficient operation of electronic money is important for economic progress and in order to protect the public's interest. It would be important for the public to be informed through the MOU of the policies and the regulatory structure established by relevant authorities under different laws on electronic money. Issues such as transparency have to be recognised not only by the relevant authorities that intend to regulate the instrument, but also by the service providers and users of the

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[189] *Ibid* 10.

[190] *See* Haas PM 'Compliance Theories' in *Commitment and Compliance - The Role of Non-Binding Norms in the International Legal System* (n 180) 42, 42 - 43.

[191] *Ibid* 51 - 64.

[192] *See* Shelton D 'Introduction' in *Commitment and Compliance - The Role of Non-Binding Norms in the International Legal System* (n 180) 1, 13 - 14.

[193] *See* Chapter 1 section V under B - 3 and 4 and Chapter 4 section III under A and C - 1 and 2.

[194] *See* Chapter 1 section V under A and B - 1 to 6.

product.[195] As the MOU is one of the tools to ensure the development of electronic money in line with the government's policy on ICT, the authorities involved have a strong incentive to comply with the MOU. Furthermore, as various efforts and huge investment have been made by the government in this area,[196] as government bodies, parties to the MOU have to take into consideration the reputational risk in the event that they do not comply with the terms of the MOU.

Since the setting up of the BIS in 1930, it remains the principal centre for international central bank cooperation.[197] Since then, especially after the aftermath of the Second World War, coordination among the central banks and other agencies has been established through regular meetings.[198] Setting up a non-legally binding mechanism among the central banks is not new and has proved to work. For example, in 1974, the Basle Committee on Banking Supervision (Basle Committee) under the administrative auspices of the BIS was established without any extensive formal mandate, constitution or bylaws and serves as a forum for on-going cooperation on bank prudential supervision matters.[199] Even without any legal establishment, this committee has the ability to influence and create a worldwide forum for discussion of banks prudential problems.[200] Thus, the Basle Committee, even though not a formal organisation in an international law

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[195] The users in this context would mean the merchants that accept electronic money as a method of payment and the consumers that use the instrument in making payment for purchasing goods and services.

[196] *See* Chapter 1 section V under A and B.

[197] *Available at* 'BIS History' <http://www.bis.org> last visited August 2005.

[198] *Ibid.*

[199] The members of this committee are governors of the central banks from the Group of Ten countries (Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom and the United States) and the governor of the Central Bank of Switzerland. *See* Norton JJ *Devising International Bank Supervisory Standards* (Graham & Trotman/Martinus Nijhoff The Netherlands 1995) 176 and 'The Basel Committee on Banking Supervision' *available at* <http://www.bis.org/bcbs/aboutbcbs.htm> last visited August 2005.

[200] For example, the committee was the catalyst for the establishment of the Bi-annual International Conference of Banks Supervisors. The first conference was held in 1979 and has continued since then. The committee also generated an offshore group of bank supervisors and established close links with the European Union's (EU) bank supervisory authorities and the Banking Advisory Committee. *See Devising International Bank Supervisory Standards* (n 199) 182.

context, has become a substantive and permanent international forum for a worldwide network of information exchanges and also create a conditions for international convergence of prudential supervision practices and standards.[201]

The MOU has been recognised as a mechanism to enhance cooperation between leading central banks and other authorities. For example, a MOU is established between the Treasury, the BOE and the FSA in the field of financial stability.[202] Other examples are the MOU between the Reserve Bank of Australia (RBA) and the Australian Competition and Consumer Commission (ACCC) which coordinate the policies and information sharing in respect of payment systems[203] and the MOU exchanged between the Riksbank and the Swedish FSA, which outlines the responsibilities of the two authorities in the area of financial stability.[204]

Further, the central banks and the monetary authorities of the Association of South East Asian Nations (ASEAN) countries have established a non-legal binding mechanism in a form of an MOU to establish monetary cooperation among its member countries. [205] The ASEAN Swap Agreement (ASA) is aims to provide the member countries with sufficient international liquidity in case of balance of payment problems.[206] The ASA was first executed in 1977 by five original members of ASEAN[207]

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[201] *Ibid.*

[202] *See* Memorandum of Understanding between the Treasury, the Bank of England and the Financial Services Authority. *Available at* <http://www.bankofengland.co.uk> last visited October 2003.

[203] *See* Memorandum of Understanding between the Australian Competition and Consumer Commission and the Reserve Bank of Australia. *Available at* <http://www.rba.gov.au> last visited March 2004.

[204] *See* Memorandum of Understanding between Riksbank and Swedish FSA. *Available at* <http://www.riksbank.se/template> last visited March 2004.

[205] *See* Cuyvers L, De Lombaerde P and Verherstraeten S 'From AFTA Towards An ASEAN Economic Community… And Beyond' Centre for ASEAN Studies Discussion Paper No 46 January 2005 at 17.

[206] *Ibid.*

[207] *Ibid.* The original members are Thailand, Malaysia, Singapore, the Philippines and Indonesia.

but now has extended to all ten ASEAN countries,[208] including China, Japan and South Korea.[209]

Other organisations have also established MOU to ensure cooperation. The European Union (EU) has executed a MOU to establish cooperation between Payment Systems Overseers and Banking Supervisors, which is designed to facilitate cooperation in both normal and crisis circumstances.[210] Members of the International Organisation of Securities Commissions (IOSCO) [211] have also established a MOU to provide a clear benchmark for cooperation and practical mechanism for information sharing among its members.[212] These examples demonstrate that MOU exchanged among central banks and regulatory authorities have been effective and non-compliance almost unheard of.

Based on the different objectives of each government authority, the cooperation among the parties may be established through a non-legal bilateral collaboration. [213] For example, the US/UK Accord made in 1987 in furtherance to the Basle Committee is an

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[208] *Ibid* 18. The ten member countries are all the five original members of the ASA including Brunei, Cambodia, Laos, Myanmar and Vietnam.

[209] *Ibid.* The inclusion of three non-ASEAN countries to enter the ASA was based on the ASEAN+3 meeting of Finance Ministers in May 2000.

[210] *See* 'Memorandum of Understanding on Co-operation between Payment Systems Overseers and Banking Supervisors in Stage Three of Economic and Monetary Union' European Central Bank 2 April 2001. *Available at* <http://www.ecb.int> last visited October 2003.

[211] IOSCO was established in 1983 from the transformation of its ancestor, the Inter-American Regional Association created in 1974. At present, IOSCO membership stands at 181 members. The organisation's members regulate more than 90% of the world's securities markets making it the most important international cooperative forum for securities regulatory agencies. The Malaysian Security Commission, the Monetary Authority of Singapore and the Hong Kong Securities and Futures Commission are among the members of IOSCO.
Available at 'IOSCO Historical Background' and 'List of Members' <http://www.iosco.org/about> and <http://www.iosco.org/list/> last visited August 2005.

[212] *Available at* 'Financial Stability Forum (FSF) Announces a New Process to Promote Further Improvements in Offshore Financial Centres (OFCs) - 5 March 2005'
<http://www.bis.org/press/p050311b.htm> last visited August 2005.

[213] BNM should execute the MOU separately with MECM and MDC.

informal non-legal bilateral collaboration between the United States Federal Banking Supervisory Authorities and the BOE.[214]

A regulatory authority such as MECM will have different objectives compared to a non-regulatory body like the MDC, the roles and functions to be established under the MOU on electronic money issues also need to be separated. A bilateral MOU would better reflect the issues involved. Furthermore, a bilateral MOU would also ensure should there be a need for amendments, that only the parties concerned with the MOU are affected. It would leave sufficient discretion and flexibility for parties to add additional details and responsibilities as they so wish.[215]

As bilateral MOU are proposed, this section deals with the items to be included in the MOU depending on the type of authority that BNM will exchange the MOU. While there are similar issues involving both authorities, *i.e.* the MECM-like and MDC-like authorities, there are other items that are exclusive to each. This section will first discuss the proposed items, which are included in both types of MOU.[216] It will then separately discuss items that are proposed to be specifically included in the MOU executed between BNM and another regulatory authority.

A. Items to be Included in the Memorandum of Understandings (MOU) Between Both Regulatory and Non-Regulatory Bodies

There are certain issues that are common and essential for the purpose of exchanging the MOU between BNM and all other authorities. However, the main factor

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[214] The Accord was an agreed proposal of the United States Federal Banking Supervisory Authorities and the BOE on primary capital and capital adequacy assessment. It does not purport to be a legal document and its purpose is to serve as a basis for consultation with the banking industry and others in the United States and the United Kingdom. *See Devising International Bank Supervisory Standards* (n 199) 186 and Basle Committee on Banking Supervision Working Papers No 1 – April 1999 'Capital Requirements and Bank Behaviour: The Impact of the Basle Accord' Bank for International Settlements 1999.

[215] *See* 'Essential Elements of a Statement of Cooperation Between Banking Supervisor' (n 161).

[216] *I.e.* The MOU between BNM and a regulatory authority like the MECM and the MOU between BNM and a relevant non-regulatory authority exemplified by the MDC.

that should be included is to clearly identify the main aims and the principles of the authorities on electronic money.[217]

1. Information Sharing

The key item to be included in the MOU is the sharing of information. Information shared can be: -

i. General policies that could affect matters on electronic money;
ii. Information relating to the development of electronic money such as the technicality involving new scheme; and
iii. Issues related to training that may be necessary for BNM, MECM or MDC personnel in enhancing their knowledge and expertise in performing either their duties as regulators of electronic money, or as an organisation that has interest on the product.

BNM would disseminate the information collected to all parties.[218] BNM would use its discretion to disseminate information based on its relevance.[219] Based on the reasons suggested in this chapter,[220] it is also proposed that the procedure and the functions undertaken by BNM for the purpose of sharing of information be reviewed and evaluated. A specific period should be stated in the MOU for this purpose.

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[217] *See* section IV and the table provided under this section identifying the principal objectives and the functions of each authority on electronic money.
Also note that the MOU between the Treasury, the BOE and the FSA identify the guiding principles of the MOU. The guiding principles are based on clear accountability, transparency, no duplication and regular information exchange. *See* Article 1 of the Memorandum of Understanding between the Treasury, the Bank of England and the Financial Services Authority. *Available at* <http://www.bankofengland.co.uk> last visited October 2003.

[218] Based on the functions of BNM as the main regulatory authority for electronic money. *See* section II under A and B.

[219] For example, BNM should only disseminate the information passed by the market to the MECM if the information is relevant for MECM's further action.

[220] *See* section III under B - 3.

As the key objective of the MOU is the sharing of information, information exchanged should be based on mutual trust. This is to ensure that the information flows with confidence in both directions. Steps must be taken to preserve the confidentiality of the information.

The MOU will specify that permission must be obtained from the provider of the information[221] should BNM wish to disseminate information to another party. The permission statement included in the MOU should state the reasons why the information has to be released to other parties. The circumstances in which the permission should be sought for will be included in the MOU.[222]

The sharing of information on regulatory policies is crucial between BNM and a regulatory authority like MECM. Sharing of information is important in order for both authorities to analyse whether the payment system that accommodates the electronic money scheme requires written notification,[223] to be designated,[224] or to be issued a licence,[225] depending on the legislation.

Information that needs to be shared with an authority like the MDC would be more general in nature involving policies related to the development of electronic money in ensuring its consistency with ICT enhancement. As MDC is not a potential regulatory body, it would not need specific information on the mechanism of the whole electronic money scheme as needed by MECM.

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[221] In this situation, it would be information from the MECM.

[222] In this scenario, BNM has to inform the MECM on the importance of the information for the MDC. BNM should give assurance to MECM that the information will not be used by MDC for any other purpose or release the information to another third party without prior permission of MECM.

[223] Under the PSA, BNM has to issue written notification to the operator of the payment system that accommodates the electronic money scheme. *See* PSA section 5 (1).

[224] BNM may need to consider whether the same payment system needs to be designated as a DPS. *See* PSA section 6(1).

[225] MECM may have to consider whether a class licence is applicable or that an individual licence has to be issued to the same operator if it is of the view that the payment system falls under CMA section 126(1)(c).

However, MDC may need certain information on the rationale of the regulatory policies established by BNM and MECM. This is to ensure that the policies are in line with the general ICT development policies in Malaysia. The MOU has to clearly state that in the event that BNM or MDC is of the view that sharing of particular information is important, consent is needed from the originator of the information. For example, the MOU has to specify that BNM as coordinator must obtain the consent from MECM before releasing the information to MDC on the rationale of the policies taken by MECM in its decision to regulate electronic money schemes under the CMA. As to the information relating to the policies under the PSA, the MOU should also include that approval should be obtained from BNM's management, as certain information related to policies may be confidential.

2. Coordination Structure

To ensure the successful coordination among the authorities, which have various responsibilities, a specific unit within the authorities and the personnel in charge for liaising purposes should be identified.[226] The role of the specific unit is not only for the purpose of organising meetings and training of personnel, but also to ensure that specific information is disseminated to the designated party on time.

Coordination should include periodic meetings between BNM and the other authorities. For the MOU between BNM and MECM, discussion should not only be on current regulatory functions but also on new policies or developments of electronic money that may affect the authorities.

It is also important to coordinate the need for further training of personnel dealing with electronic money matters. Electronic money will evolve and personnel[227] need to be

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[226] For example, MCMC, as a body responsible for implementing the PSA, should identify specific personnel to be in charge of liaising with BNM on electronic money issues. MDC should also do the same and identify specific personnel to be involved.

[227] This would refer to personnel from regulatory authorities like BNM and MECM and also government corporation such as MDC.

updated with any new developments. Internal training within the authorities involved may be important. For example, the MDC may need to inform BNM's personnel on Malaysia's new policies related to ICT development or issues related to cyberlaws that may affect matters related to payment system. The MOU should specify the issues on training which may include matters related to the types of training needed, the frequency and time allocation for personnel to attend the training.

3. Further Development of Electronic Money

The MOU exchanged between BNM and MECM, or with MDC should include areas of development that may affect electronic money. Developments may be related to the enhancement in technology. It may also include policies that will affect the existing regulatory framework on electronic money.[228]

The MOU between BNM and a regulatory body like MECM is proposed to include the areas of development that may affect the regulatory framework established. It should include ways and means by which both regulators are to manage the issues on development in order to ensure continuous coordination between both authorities.

As for the MOU with corporation like MDC, it should specify the importance of MDC's involvement on electronic money development. This is because electronic money has been identified as a product to be developed in line with ICT enhancement.[229] As MDC is the coordinator for all the cyberlaws[230] in Malaysia, it would be important for MDC to be informed in the event that new electronic money scheme has invoked any of the provisions under the cyberlaws.[231]

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[228] For example, as the implementer of the DSA, MECM will have to be involved if a new electronic money scheme security feature is enhanced by using digital signature. *See* section III under B - 4.

[229] MDC is established to coordinate the development of ICT in Malaysia. *See* Chapter 1 section V under B - 3 on the roles and functions of MDC under MSC's initiative.

[230] *See* Chapter 1 section V under B - 6 on cyberlaws.

[231] As for electronic money issues, cyberlaws that may be of relevance are the CMA and the DSA.

B. Specific Items to be Included in the MOU Between BNM and Another Regulatory Authority

This section will discuss the specific issues to be included in the MOU exchanged between BNM and another regulatory authority such as MECM. There are two identified items that are crucial in order to ensure continued smooth coordination and effective implementation of separate legislation between BNM as the main regulatory body, and MECM-like authority.

1. Regulatory Framework

The MOU should acknowledge that MECM would not always be involved in regulating electronic money schemes. MECM's involvement would depend on each scheme that is developed. As such, it should be clearly defined in the MOU that BNM, as the main authority for electronic money, is to use its discretion to inform MECM on any new electronic money scheme that may invoke legislation administered by the latter.

The procedure for a joint regulatory framework has to include a step-by-step guide to be undertaken by both authorities in certain situations. Circumstances defined include the operator seeking approval to operate a new payment system for electronic money, the rights of BNM to revoke the written notification,[232] the designation of a

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[232] PSA section 5(4) states: -

Notwithstanding subsection (1), the Bank may, by written notice, prohibit a person from operating any payment system where –

(a) the payment system is detrimental to the reliable, safe, efficient and smooth operation of the payment systems of Malaysia; or

(b) the prohibition is in the interest of the public.

payment system,[233] or the procedure to be undertaken by MECM in the event that a payment system is operated without a licence under the CMA.[234]

The most challenging issue for BNM and MECM is the monitoring of the electronic money scheme. Both authorities have to ensure the compliance of both legislation and identify to what extent it will conduct consolidated monitoring. Both BNM and MECM would have to consider what requirements and restrictions are provided under PSA and CMA. Any change or amendment made to the regulatory policies either by BNM or MECM could have significant bearing on the activities of the electronic money scheme in operation.

The scope of each regulator[235] must also be specified and has to indicate any special feature that might give rise to special regulatory arrangements, which has to be agreed by both authorities for the purpose of the joint monitoring functions of the electronic money scheme.[236]

2. Dispute Resolution Between the Authority and the Operator of Payment System

Disputes that arise between the operator of the payment system that accommodates the electronic money scheme and the regulatory authorities need to be

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[233] PSA section 8(1) states: -

> The Bank may, by order published in the Gazette, revoke the designation of a payment system if the Bank is of the opinion that –
> (a) the designated payment system no longer poses any systemic risk; or
> (b) it is no longer in the interest of the public that the system be designated.

[234] CMA sections 126(1)(c)(aa) and (bb) provides that a person has to be in accordance with the terms and conditions of a valid individual or a class licence granted under the CMA before providing any facilities or services under the said Act. *See* Chapter 1 section VI under B for the stated provisions.
CMA section 126(2) also provides that any person who contravene CMA section 126 (1) shall be liable for imprisonment and/or a fine. CMA section 127(3) further provides that a licensee must provide any facility or service in accordance with the conditions of the licence.

[235] Both BNM and MECM.

[236] The special features would depend on the scheme that is developed and operated which has to be analysed by both regulators on a case-to-case basis.

settled through a dispute resolution mechanism. Dispute resolution should be conducted in accordance with the existing provisions under the PSA and CMA. The MOU should acknowledge the existing procedures on dispute under both legislation, including the issues on enforcement.

BNM's power to regulate the payment system that accommodates electronic money is under PSA. Under PSA, BNM's power to handle dispute is based on the appeal that can be issued by the operator of the payment system on the decision made by BNM.[237] The appeal process under PSA requires the appeal document to be submitted to the Minister[238] where the said Minister will make the final decision.[239]

The MCMC has the powers to handle all disputes regarding the CMA or its subsidiary legislation.[240] This includes the power of MCMC to issue guidelines on dispute resolution, [241] which the operator of the system has to comply with in the event of dispute under CMA.

The guidelines that MCMC issued on dispute resolution, sets out the principles and procedures for dispute resolution or class of dispute in matters relating to the CMA or its subsidiary legislation.[242] The MCMC pursuant to the powers under CMA may

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[237] PSA section 66(1) provides that the operator of a payment system where written notification has been issued to operate the system may appeal if BNM later decides to prohibit the system from operating. The operator of a DPS may also appeal on the decision of BNM to require the operator to make alterations or modifications to the system, the governance and operational arrangements and to any documents previously submitted to BNM.

[238] PSA section 66(2) provides that the appeal shall be submitted to BNM where the appeal will be forwarded to the Minister together with BNM's recommendation. 'Minister' under PSA section 2 means 'the Minister charged with the responsibility for finance'.

[239] PSA section 66(3).

[240] CMA Chapter 7 (section 82 to 89) provides for the powers of MCMC in handling dispute resolution.

[241] CMA section 85 provides that MCMC may publish guidelines setting out the principles and procedures, which may be taken into account in resolving disputes or class of dispute.

[242] *See* Malaysia Communications and Multimedia Commission 'Guidelines for Dispute Resolution' July 2003. *Available at* <http://www.mcmc.gov.my> last visited March 2004.

direct a party to a dispute to abide by its decision.[243] The High Court of Malaysia may enforce the decision made by MCMC.[244] Based on the argument above, it is proposed that any dispute brought up by the operator, depending on which legislation is involved, be dealt with separately.

It is important for the authority that is involved in the dispute to inform other parties in the MOU. This would include informing the other authority not only on the final outcome of the dispute, but also during the process of the dispute.[245]

For example, in a situation where the operator of a payment system that accommodates the electronic money has been issued a written notification by BNM[246] to operate the system but later been prohibited to do so,[247] an appeal can be made by the operator on the decision made by BNM to the Minister. The PSA also provides for a time frame in order for the appeal to be made by the operator to the Minister.[248] In this example, it is proposed that BNM should inform MCMC[249] on the appeal upon receiving

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[243] CMA section 89 (1).

[244] CMA section 89 (2).

[245] However, it should be noted that this would only be the case if the electronic money scheme has been acknowledged by BNM and MECM to be subjected to both the PSA and the CMA.

[246] PSA section 5(1) provides that 'no person shall operate any payment system unless he has complied with the requirements of subsection (3) and has received a written notification from the Bank that he has so complied.'
Subsection 5(3) mentioned in subsection 5(1) above provides that 'a person referred to in subsection (1) shall submit to the Bank the documents and information as prescribed by the Bank, together with such fees as may be prescribed by the Bank.'

[247] Under PSA section 5(4), BNM may prohibit a person from operating the payment system if 'the system is detrimental to the reliable, safe, efficient and smooth operation of the payment systems of Malaysia or it is of the interest of the public'.

[248] The right to appeal and the time frame of 21 days or within such time as BNM may allow to make the appeal is provided under PSA section 66(1).

[249] MCMC is the authority that BNM should liaise with. This is because MCMC was set up with, among others, the function to implement and enforce the provisions of the CMA and its subsidiary legislation. *See* Malaysian Communications and Multimedia Commission on 'Power & Functions.' *Available at* <http://www.cmc.gov.my/mcmc> last visited March 2004.

the submission from the operator, and not to wait for the final decision made by the Minister. This is important because PSA section 66(3) further provides that BNM's decision[250] 'shall not take effect unless the Minister confirms the decision or, for any reason, dismisses the appeal, or the appeal is withdrawn.' As the payment system for the electronic money scheme in this scenario is also subjected to CMA, it would be crucial for MCMC to be informed on the appeal process, as the prohibition to operate the system does not take immediate effect, hence means that the operator of the system is still subjected to conditions issued under CMA. It would also be crucial for MCMC to be informed immediately as the outcome of the appeal would have significant impact to the regulatory regime that is imposed on the operator of the system under CMA.[251]

It would also be important for BNM as the main regulatory body to be immediately informed of any dispute, taking place between the operator of the payment system and the MECM under CMA. For example, in the event that there is a dispute on matters related to the non-compliance of the licensee as to the conditions of the licence under CMA,[252] BNM may also want to analyse whether such situations would be detrimental to the efficient and smooth operation of that payment system and if so, it would also want to prohibit the operator from operating the payment system.[253]

3. Course of Action in the Event of Dispute Between Regulatory Authorities under the MOU

It has been recognised that in Asia, which includes Malaysia, parties prefer to

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[250] In this case, to prohibit the operation of the payment system.

[251] For example, if the Minister (*i.e.* the Minister of Finance provided under PSA section 2) confirms the decision of BNM to prohibit the operation of the payment system under the PSA, the individual licence issued under the CMA to the operator of the same payment system will be affected. MCMC in this scenario may want to make recommendation to the Minister (*i.e.* the Minister of Communications and Multimedia provided under the CMA section 6) to revoke the said licence issued under CMA.

[252] CMA section 27(3) provides that the licensee cannot provide any facility or services except in accordance with the conditions of the licence granted.

[253] BNM has the power to do so under PSA section 5(4)(a).

settle dispute internally.[254] Even if there is not enough evidence to support the reason behind it, it has been suggested that the main factor is related to the culture of the countries.[255] While the above discussion on non-binding norms among central banks and regulatory authorities shows the effectiveness of MOUs, as they are non-binding, this section considers the actions to be taken in the event of disputes between the parties of the MOU.

The MOU proposed between regulatory authorities identifies each party's roles and functions in implementing two separate laws. Clarifying the objectives of each Acts may be the first provision of the MOU. BNM has direct regulatory functions on electronic money and will regulate the issuers of electronic money provided by both financial and non-financial institutions.[256] However, this is not the case for MECM under the CMA. The main objective of CMA is to make better provisions to regulate the converging communications and multimedia industries.[257] The applicability of the CMA to MECM on electronic money issues is based on the Act's wide regulatory powers on converging communications and multimedia industries, including incidental matters related to it.[258]

Based on the different objectives of the PSA and the CMA on electronic money, the regulatory authorities should ensure that their roles and responsibilities under the MOU reflect the objectives of the respective Acts. In settling the issues on overlapping of

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[254] *See* Pistor K and Wellons PA eds, *The Role of Law and Legal Institutions in Asian Economic Development 1960 – 1995* (Oxford University Press New York 1998) 259.

[255] *Ibid* 35 and 263. It has been suggested that the evolution of laws develop over time and culture is a major factor that determine the legal system. This is where the law and legal evolution are part of idiosyncratic historical development of a country, and they are determined by various factors such as culture, geography, climate and religion.

[256] *See* the Debate on Payment System Act 2003. *Available at* Parliamentary Debates in House of Representatives on 23 June 2003 DR.23.6.2003 (n 54).

[257] *See* CMA Explanatory Statement and section IV of this chapter.

[258] Payment system that accommodates electronic money transactions may falls under the incidental matters under the CMA. *See* Preamble to the CMA.

powers, both authorities should take into consideration the different objectives of the PSA and CMA on electronic money.[259] Turf wars may be avoided, as the regulatory objectives of each party on electronic money issues are not similar.[260]

As government authorities, both BNM and MECM have to consider the reputational risk in the event of a dispute or non-compliance with the MOU. Disagreement between government authorities on the regulatory framework of electronic money may tarnish the reputation of the government in their effort to enhance the product and the confidence of the users.[261]

To settle disputes internally between regulatory authorities under the MOU, it is proposed that a standing committee is established. The procedure and the responsibilities of the standing committee should be stated in provisions of the MOU. This would include the nomination of its members where each regulatory authority may nominate representatives to the standing committee.[262] A neutral party, such as a judge, can chair the committee. When a party of the MOU feels that the terms are not being followed, they can call upon the chair to convene a meeting. A time scale will be set to the committee to try and resolve the differences or to negotiate a better procedure for the given case.

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[259] *See* section II under B.

[260] The regulatory regime for regulating electronic money should take into consideration the different aims of both authorities under the separate Acts. The MOU may be effective as the purpose of the regulatory framework between BNM and MECM is not the same.

[261] As electronic money has been identified as one of the application to enhance ICT under the MSC project, the government's reputation in developing and implementing this product for the MSC may be tarnished.

[262] The MOU between the BOE, the FSA and the Treasury provides for the establishment of a standing committee, which discuss individual cases of significance and other developments relevant to financial stability. However, meetings can also be called by participating institutions under the MOU when there are issues that need to be addressed urgently. *See* Article 10 of the Memorandum of Understanding between the Treasury, The Bank of England and the Financial Services Authority. *Available at* <http://www.bankofengland.co.uk> last visited October 2003.

The dispute, if unsettled at the standing committee level, should be brought to the attention of the respective Ministers in charge.[263] If high-level arbitration does not resolve the issue, it may then be brought to the attention of the Prime Minister at the cabinet level.

The proposed course of action to take matters to the Prime Minister's level is not new in Malaysia. On the implementation of the Government National Multipurpose Card (GMPC), there are legal issues involving various legislation administered by separate government authorities.[264] In order to ensure the smooth coordination and to settle any inconsistency between the government authorities in implementing the card, the Multipurpose Card Steering Committee may raise issues of concern to the Prime Minister that acts as the chairman of the MSC Implementation Council Meeting.[265] It is also to be noted that issues related to the development of electronic money have been raised and decided by the Prime Minister at the cabinet level. For example, the decision to appoint BNM as the lead agency to develop the National Multipurpose Card[266] under the MSC project[267] was decided by the Prime Minister at the cabinet level.[268] Even if BNM has no authority to administer on matters related to national identity, health, immigration or driving licence, the Prime Minister has given the mandate to BNM to develop the

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[263] In the case of dispute between BNM and MECM, the Ministers responsible would be the Minister in charge of finance and the Minister in charged with the responsibility for communications and multimedia. *See* PSA section 2 and CMA section 6 on the definition of 'Minister'.

[264] There are four government applications under the GMPC, *i.e.* national identification, driving licence, immigration and medical applications. As such, various laws involving these areas, which are implemented by separate government authorities, have to be examined and if necessary, be amended in order to be consistent with the implementation of the GMPC. *See* also Chapter 4 section II under A.

[265] *See* 'National Implementation Structure of Multipurpose Card'.
Available at <http://www.jpn.gov.my/gmpc/GMPC.htm> last visited January 2004.

[266] Which includes both the government and payment applications, including electronic money. *See* Chapter 4 section II under A.

[267] As the lead agency, BNM has to coordinate the project, which includes getting the cooperation from various government authorities, even though these authorities are not administered under BNM. *Sources from* Payment Systems Department, BNM.

[268] *Sources from* Payment Systems Department, BNM.

National Multipurpose Card.[269] This includes proposing the mechanism for the government applications, which will then have to be enforced by relevant government authorities.[270]

Further, East Asian countries tend to prefer top-down direction.[271] Thus, resorting to ministerial or even higher cabinet level intervention is likely to yield a resolution to the dispute. In a country like Malaysia, it has been observed that the economies strategies that were adopted by policy makers increasingly emphasised a direct State control in the economy and the legal system adjusted to accommodate this role.[272] The legal changes, rather than emerging from the legal system itself, were primarily top down induced by government policy.[273]

In the long run and as electronic money develops, regulatory authorities such as BNM and MECM may want to formalise the cooperation established between both parties through legislation. This may occur in the event that MECM decides to reserve its licensing powers under the CMA to the operator of payment system. A legislation, which is to replace the MOU, may enhance the commitment between the regulatory authorities in performing their cross-regulatory functions under separate laws. Law is often deemed as a necessary basis for ordering behaviour.[274] The language of the law most precisely communicates expectations and produces reliance, despite inevitable ambiguities and gaps. It exercises a pull towards compliance by its very nature.[275]

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[269] *See* Chapter 4 section II under A for National Multipurpose Card.

[270] *See Concept Request for Proposal – Multipurpose Card Flagship Application* (n 70) 6 - 49.

[271] *See The Role of Law and Legal Institutions in Asian Economic Development 1960 – 1995* (n 254) 7 - 8.

[272] *Ibid* 7.

[273] *Ibid* 8.

[274] *See* Shelton D 'Introduction' in *Commitment and Compliance - The Role of Non-Binding Norms in the International Legal System* (n 180) 1, 8.

[275] *Ibid.*

Enacting a legislation to establish the cooperation between parties in electronic money also shows the seriousness of BNM and MECM in ensuring the successful implementation of a cross-regulatory framework for electronic money.[276] This approach is also in line with the SIPS recommendation. In applying SIPS, the regulators have to ensure that their regulatory objectives are well defined. This includes how the regulators intent to achieve their objectives and whether these objectives are derives from formal powers or through other means.[277] A legislation establishing the cross-regulatory functions of BNM and MECM would enhance the understanding of the objectives and functions of both authorities on electronic money.

The exercise to legislate issues in relation to the cooperation such as on sharing of information may clarify the functions of each authority in matters related to disseminating of information to relevant parties. [278] Legislation may also consist of what is the procedure or the course of action to be taken in the event of dispute between the regulatory authorities in performing their cross-regulatory functions under separate legislation.[279]

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[276] *Ibid.* Legislation will ensure that the authority as the implementer of the law has some degree of transparency and understanding of the authoritative means of creating binding norms.

[277] *See* Section 4: Responsibilities of the Central Bank in Applying the Core Principles in Committee on Payment and Settlement Systems. *Available at* 'Core Principles for Systemically Important Payment Systems' (n 55).

[278] For example, under the Malaysian Deposit Insurance Corporation Act 2005 section 67 (a) to (d), it is provided that BNM shall provide information to the deposit insurance corporation established under this Bill. Information includes any examination conducted, assessment of the safety and soundness of the member institutes, or any information BNM considers relevant that may affect the position of the corporation as an insurer.

[279] Under the Singaporean Statistics Act section 4, it is provided that in the event of dispute between the research and statistic unit and the chief statistician, the matter may be taken to the Minister in charged who may then give his direction. However, it has to be noted that on issues related to electronic money, two different authorities under separate Ministers are involved, thus matters have to be taken at a higher level.

V Prospects of Electronic Money Regulation

As electronic money develops and becomes more widely used and the structure complex, the need to reconsider the current regulatory framework is highly likely. A new framework would be crucial to ensure the continuing development of the product and to simplify the regulatory process.

Under the present structure, the laws provide for cross-regulatory functions between two separate authorities,[280] BNM and MECM.[281] So far, MECM has chosen not to invoke its powers under the CMA to regulate the operator of the payment system that accommodates electronic money.[282] Nevertheless, as electronic money develops, the functions of BNM and MECM should be clarified. The current cross-regulatory functions between two separate authorities may lead to ambiguity, not only to the industries but also to the authorities as well.

As the issue at hand involves two public authorities, legislation would be the appropriate means to resolve any ambiguity of roles for the purpose of publicity as well as authoritativeness of the legal instrument. Issues such as allocation of resources and dispute between the regulatory authorities would also be resolved in a timely manner as there is a clear structure of the regulatory mechanism under the legislation.

The legislation should state the objective of regulation, the definition of the products subject to regulation, as well as the authority responsible for regulation. Due to the nature of electronic money, it is likely that cross-regulation remains to be the preferred structure of regulation by the government. In that case, the role of the lead regulator needs to be clearly delineated, as well as its powers over other authorities.

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[280] The regulatory power of MECM is provided under CMA while the PSA provides for BNM's regulatory functions.

[281] *See* section II under A.

[282] *Ibid.*

Network-based electronic money schemes should also be brought within the ambit of electronic money at the time of legislation.[283]

Clarity on the function of information sharing is essential in a cross-regulatory structure.[284] Thus, legislation should include the responsibilities of the lead regulator to provide necessary and timely information to the relevant authorities on electronic money.

It would be most appropriate to appoint BNM as the lead regulator for electronic money. This is because one of BNM's principal objectives as a central bank is to ensure the efficient and the smooth operation of payment systems.[285] As discussed earlier,[286] BNM has the resources and functionality suitable to ensure further development of retail payment product such as electronic money. Central banks are often appointed the regulatory authority responsible for retail payment systems.[287]

The cross-regulatory functions of BNM and MECM could be further clarified in the procedures of regulation as both authorities have different objectives even at this point.[288] BNM, as the lead regulator, would be entrusted to decide whether the operator

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[283] *See* Chapter 4 section V under A on network-based electronic money schemes in relation to the PSA.

[284] *See* also section III under B - 3.

[285] As provided under CBA section 4 (ca). BNM other principle objectives provided under CBA section 4 are: -

(i) To issue currency in Malaysia and to keep reserves safeguarding the value of the currency;
(ii) To act as a banker and a financial adviser to the Government;
(iii) To promote monetary stability and a sound financial structure; and
(iv) To influence the credit situation to the advantage of Malaysia.

See also Chapter 4 section III under A on the roles of BNM on retail payment systems.

[286] *See* section II under B.

[287] Such as through the enactment of the Payment Systems (Regulations) Act 1998 by RBA and the Payment Clearing and Settlement Act by the Bank of Canada. *See* also Chapter 3 section IV under C for further discussion on regulatory powers of the RBA on payment instruments such as electronic money.

[288] BNM is subjected to CBA while MECM is subjected to CMA. See also the main objectives of each establishment in section IV of this chapter and the table provided under the same section.

of the proposed payment system for electronic money requires a written notification or an approval under the PSA.[289]

MECM would be involved, with BNM, in supervising and monitoring the operator of the payment system after the system has been notified or approved by BNM under the PSA. The supervision roles conducted by MECM must be in line with the authority's main aim under the CMA, *i.e.* to regulate converging communication and multimedia industries. The power to issue licenses of MECM would need to be revoked as another regulatory regime imposed by MECM under the CMA may stifle innovation and discourage market participation. Issues such as over-regulation, through a duplicative regulatory structure with multiple regulators may appear to be of greater risk than the prudential risks posed by the operator of the payment system.[290]

A certain degree of regulatory competition would exist between BNM and MECM which could enhance their competence.[291] In the long run, as the market for electronic money matures, market discipline[292] could play a certain role in the regulatory framework. With adequate information available, market discipline would have an effect to both the regulator and the regulatee.[293]

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[289] Based on PSA sections 5(1) and 6(1), BNM has to issue either a written notification or an approval to the operator of a payment system prior to the operation of the system. In the event that BNM is of the view that the payment system may poses systemic risk or it is necessary to protect the interest of the public, the system may be designated as a DPS where approval is necessary.

[290] *See* 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 6).

[291] *See* Polizatto VP 'Prudential Regulation and Banking Supervision' in Vittas D (ed) *Financial Regulation – Changing the Rules of the Game* (Economic Development Institute of the World Bank Washington 1992) 283, 301 - 302.

[292] *See* Chapter 4 section IV under A - 4 on market discipline.

[293] *See* Yokoi-Arai M 'The Balance of Market Discipline in Bank Regulation' in Gorton L (ed) *International Seminar - The Breakdown of Public & Private Law Dichotomy in Commercial and Financial Law* (Finansierings – OCH Kommersiellrättsliga Studier 4 Lund Stockholm 2003) 81, 103 - 104.

While the above discussion has been based on the existence of cross-regulatory functions between two authorities, another policy choice would be a single authority regulating electronic money. By acknowledging BNM as the only regulatory authority and explicitly excluding the regulatory functions of MECM on payment issues may provide clarity to the operator of the payment system for electronic money. The operator would be clear that any approval needed prior to the operation of the payment system and further monitoring of the system would only be based on a single regulatory regime.

Australia has followed the path of only having a single regulatory authority for electronic money. The RBA has made a conscious decision not to invoke its licensing powers under the Payment Systems (Regulations) Act 1998 to license the holder of payment purchase facilities.[294] The RBA determined that there is no justification for it to establish a full-scale licensing regime for a few purchased payment facilities that are not subjected to the Australian Prudential Regulatory Authority (APRA).[295]

VI Concluding Remarks

The involvement of central banks in retail payment has been recognised to be of importance by both the developed countries and emerging economies.[296] The efficiency and stability of a country's retail payment systems, which is part of payment systems as a whole, are important for financial stability.[297] In recent years, many countries have been more explicit in their effort to include payment systems as part of their agenda for the overall development of the financial market. Countries like Australia have established

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[294] Example of payment purchase facilities is stored-value scheme such as stored-value card. *See* Chapter 3 section IV under C.

[295] The Corporations Act 2001 established under the responsibility of the Australian Securities and Investments Commission (ASIC) already has a broad licensing regime for all types of financial services, including providers of non-cash payment instruments. The Corporations Act 2001 already explicitly covers for the providers of purchased payment facilities. The said law requires the providers to be licensed, or to be exempted from the licensing requirement by ASIC. *See* Chapter 3 section IV under C for discussion on purchased payment facilities in relation to RBA and APRA and 'Survey of Developments in Electronic Money and Internet and Mobile Payments' 2004 (n 6) on the Corporation Act 2001 and ASIC.

[296] *See* section II.

[297] *See* 'Policy Issues for Central Banks in Retail Payments' 2003 (n 17) 11.

within the RBA, a Payment Systems Board specifically to accommodate for issues related to payment systems and its development.[298] Canada is another example that has explicitly enacted specific legislation on payment systems.[299]

Many developed countries have also made efforts to establish cooperation among relevant government authorities, which have interest in payment issues. Formal cooperation among government authorities has been established to ensure the smooth and continuing development of payment systems.[300]

Malaysia has followed suit and has made the development of payment systems a priority. The CBA has been amended to include objectives of BNM defining its responsibility in ensuring the efficiency of payment systems.[301] BNM has also taken additional steps to ensure the continuous development of payment systems by enacting the PSA. This too can be seen as an effort by BNM to ensure public confidence in the legal foundation built for payment systems.

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[298] The Payment Systems Board's responsibilities and powers are wide and cover four separate legislation. These are the Reserve Bank of Australia Act 1959, the Payment Systems (Regulations) Act 1998, the Payment Systems and Netting Act 1998 and the Cheques Act 1986. *See* 'Payments Policy – Payment Systems Board'. *Available at* <http://www.rba.gov.au> last visited March 2004. For example, the Payment Systems (Regulations) Act 1998, was enacted to give wide-ranging powers to the Payment Systems Board on issues related to payment systems. This legislation is to provide for the regulation of payments and purchase facilities such as electronic money. The major objective of this Act is to achieve a regulatory framework that would promote efficiency and competition in payment systems without compromising financial stability. *See* The Parliament of the Commonwealth of Australia House of Representatives 'Explanatory Memorandum of the Payment Systems (Regulations) Bill 1998'. *Available at* <http://www.rba.gov.au> last visited December 2001.

[299] As early as 1996, Canada has enacted the Payment Clearing and Settlement Act to give the Bank of Canada the responsibility for the oversight of payments and other clearing and settlement systems for the purpose of controlling systemic risk. For example, one of the powers of the Bank of Canada under the Act is to designate payment systems that have the potential to create systemic risk. These payment systems, which are designated, will be regulated on a continuing basis. *See* 'Oversight of Payments and Other Clearing and Settlement Systems'. *Available at* <http://www.bankofcanada.ca> last visited March 2004.

[300] *Ibid.* For example, in Canada, to avoid and to minimise duplication between the Bank of Canada that has responsibilities under the Payment and Clearing Settlement Act and the Minister of Finance that has its functions under the Canadian Payments Act, a statutory body called the Payment Advisory Committee was formed.

[301] CBA section 4 (ca). *See* also Chapter 4 section III under A and section II of this Chapter.

It is important that BNM continues to monitor the policy related to electronic money. As electronic money develops, and in ensuring that the regulatory framework on electronic money considers all aspects related to the product, BNM should ensure that PSA begins to cover issues on network-based electronic money.[302] Policy on whether to invoke the PSA to operators operating payment systems outside Malaysia also has to be decided.[303]

The enhancement of retail payments has been recognised as important for the whole development of payment systems.[304] BNM's interest in ensuring the efficiency and development of retail payment instruments is not new.[305] Since Malaysia announced its recognition of ICT development, electronic money has been one of the initial products that the government wanted to develop.[306] BNM, as a central bank, has been involved with the development of electronic money schemes under the government's initiative.[307] Based on the amendments made to the CBA,[308] the enactment of the PSA and the Gazette Orders issued on electronic money, BNM is the most appropriate authority to be the main regulatory body for electronic money.[309]

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[302] As discussed under Chapter 4 section V under A.

[303] *Ibid.*

[304] *See* Committee on Payment and Settlement Systems Secretariat 'The Contribution of Payment Systems to Financial Stability – Paper Presented at a Workshop on Payment Systems at CEMLA Mexico City on May 2000' Bank for International Settlements 2000.

[305] *See* section II.

[306] *See* Chapter 1 section V under B - 2 and Chapter 4 section II under A.

[307] *See* Chapter 4 section II under A and Chapter 4 section III under C - 1 on BNM's direct involvement on electronic money.

[308] *See* Central Bank of Malaysia (Amendment) Act 2003 section 3 where BNM add its fifth principal objective to include the importance of promoting an efficient and reliable operation of national payment and settlement systems.

[309] Currently, under PSA section 24(1), BNM has the power to prescribe a payment instrument as a DPI. BNM has invoked the said provision and has issued a Gazette Order, which has been in operation since 1 November 2003 to designate electronic money as DPI. *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 398 Payment Systems Act 2003 – Payment Systems (Designated Payment Instruments) Order 2003 (n 35). The issuer of electronic money has to gain BNM's approval before issuing electronic money (PSA section 25(1)(c)). The issuer must also comply with the submission of documents and

Based on BNM's role as the main regulatory authority, it has to ensure that cooperation exist among the parties that have interest in electronic money. This is to ensure the continuing development of the product. BNM's objectives cannot be achieved if there is negligent on the roles and functions of other authorities affecting electronic money issues. This is especially the case as the current regulatory framework for electronic money in Malaysia already provides a possible cross-regulatory function between two separate authorities under different laws.[310]

The cooperation between BNM and other authorities has to be formalised in order for it to be recognised by all parties concerned. As the PSA and the CMA provides for two separate powers, clarity on the roles and functions has to be established and understood by each regulatory authority.[311] The functions of non-regulatory authority like MDC[312] on electronic money is also important as this product has been identified as crucial for ICT development. The execution of the MOU may promote cooperation between the parties and enhance understanding of both laws. To ensure the continuing development of the regulatory framework as electronic money enhanced, the roles and functions of authorities involved have to be first defined. Further cooperation cannot be established if existing responsibilities are not agreed upon.

Further, the execution of the MOU will promote transparency. This may help the providers and users[313] of electronic money schemes to understand the roles and functions

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payment of fees prior to issuing electronic money. *See* Malaysian Government Gazette 23 October 2003 P.U. (A) 397 Payment Systems Act 2003 – Payment Systems (Submission of Documents and Information) Order 2003 (n 36) and Malaysian Government Gazette 23 October 2003 P.U. (A) 396 Payment Systems Act 2003 – Payment Systems (Fees) Order 2003 (n 37).

[310] In the event that MECM decides to invoke the CMA to license the operator of the payment system that accommodates electronic money scheme, cross-regulatory functions between MECM and BNM under the CMA and the PSA will exist.

[311] That is by both BNM and MECM.

[312] MDC was established by the government to ensure the implementation of the MSC project for the purpose of developing ICT in Malaysia. *See* Chapter 1 section V under B - 3.

[313] Users include merchants and consumers that use electronic money scheme for the purpose of selling and buying goods and services.

of the authorities involved. They will also have a better understanding on the existing regulatory framework of electronic money in Malaysia.

By being transparent, it may enhance the confidence of the public in using electronic retail payment such as electronic money. As electronic money has been identified as essential for ICT development,[314] the government has to show that the development of electronic money includes a clear and well-defined regulatory framework for the product. Through the MOU, which not only defined the responsibilities of the authorities, but also the agreement to review[315] and provides solutions in the event of dispute,[316] may encouraged the public to use electronic money. The MOU may be seen as the first step taken by the authorities in ensuring a workable regulatory framework for electronic money thus enhancing the acceptance and development of the product. In order to enhance the commitment between BNM and MECM in performing their cross-regulatory functions, the cooperation between the regulatory authorities may be established through legislation to replace the MOU.

The current laws in Malaysia provide the possibility of a cross-regulatory function between BNM and MECM on electronic money.[317] However, as MECM is yet to invoke its wide powers under the CMA to issue licence to the operator of the payment system that provides for electronic money services. BNM is at present the only regulatory authority that regulates electronic money. However, in the long run, a policy stance has to be taken by BNM and MECM to ensure a workable cross-regulatory structure is in place. The current regulatory powers of the authorities under the PSA and CMA have to be clarified in order to avoid ambiguity in applying and implementing the laws. The appointment of BNM as the lead regulator may have to be considered by MECM in order to provide for an effective cross-regulatory structure for electronic money.

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[314] *See* Chapter 1 section V under B - 2 and Chapter 4 section II under A.

[315] *See* section IV under C - 1 (a) and (b).

[316] *See* section IV under C - 2 (b) and section V.

[317] *I.e.* the PSA and the CMA. *See* further under section II under B of this chapter.

MECM may also have to consider the possibility of excluding its regulatory powers on payment system under the CMA based on BNM's current extensive regulatory provisions under the PSA. Even though the CMA provides wide powers to MECM, a fragmented regulatory framework may not be practical. Especially for electronic money, which is still developing, a clear regulatory framework based on a single regulatory authority may be more workable.

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